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Blurring the Line: Expanding the Public Realm through Public-Private Partnerships along Waller Creek in Austin, Texas

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by

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Blurring the Line: Expanding the Public Realm through Public-Private Partnerships along Waller Creek in Austin, Texas

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Recent completion of a mile-long flood-control tunnel beneath the urban core of Austin, Texas, promises to reconfigure a large swath of its downtown. The tunnel receives storm water runoff that previously flowed into Waller Creek, a long-neglected waterway historically prone to catastrophic flooding. With the massive public works project having removed 28 acres from the creek's 100-year flood plain by virtually eliminating the threat of future inundation, wholesale redevelopment of the area has begun. Concurrently, plans are moving forward to create a linear greenway that will snake through 15 downtown blocks along the newly tamed creek channel. Supporters of the greenway see the parkland improvements as a catalyst for private development on adjacent sites. To ensure that parkland isn't isolated from adjacent private parcels, several public-private partnerships have been forged to integrate the public and private realms. As further redevelopment takes place, additional partnership opportunities are likely to arise. This report details several public-private partnerships that already have helped expand the greenway's public realm, and also highlights opportunities for similar mutually beneficial partnerships.

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Chapter I: Introduction

A colossal yet inconspicuous flood-control tunnel substantially completed in 2016 beneath downtown Austin, Texas, holds great promise as a catalyst for sweeping redevelopment of the eastern edge of its central business district. The impending realization of the multi-million project also heralds the prospect of transforming a long swath of urban blight known as Waller Creek into an extensive municipal greenway and expanding the city's public realm by creating new open space set amid its increasingly congested urban core.

The tunnel is intended to solve the persistent problem of flooding that has repeatedly wreaked costly damage to property and at times the loss of life over the city's 180-year history. While its foremost objective is flood control, the project's broader goal is the wholesale re-imaging of an urban district comprising one-fifth of the acreage within Austin's central business district. As a consequence, real estate developers, abetted by a strong local economy that has fueled a sustained construction boom across the city and the Central Texas region, have purchased or obtained long-term leases for several downtown tracts immediately adjacent to Waller Creek. Already, in the latter half of 2017, large-scale projects are rising at points along the creek's downtown reach, with more groundbreakings being planned in the near future.

Central to this nascent metamorphosis of Austin's skyline are 28 acres that the tunnel project, by its diversion of storm water from the creek channel into a massive underground conduit, has effectively reclaimed from Waller Creek's 100-year flood plain. As a result of the flood-control scheme, the parcels are no longer imperiled by recurrent inundation. Instead, having stemmed the source of a continual threat that for decades has limited financial investment within the flood plain, the 28 acres are expected to become the impetus for a rebirth of that segment of downtown. Envisioned as its centerpiece, the Waller Creek Greenway, a mile-long

chain of parks, will encompass the newly tamed waterway. The future parkland – featuring trails, landscaped areas, and programmed gathering spaces – is foreseen as a popular urban amenity that will attract considerable private investment for redevelopment of adjacent tracts. Moreover, the combined effect of the flood-control tunnel and the planning for greenway improvements has elevated hopes within local government and Austin's development community about the overall economic impact, with city officials estimating additional property tax revenues in the billions of dollars over the following two decades [*Downtown Austin Blog*, 2010].[1]

Nexus of Public and Private Realms

As currently planned, the Waller Creek Greenway will more or less follow the existing creek channel that lies approximately 10 feet below street level, a topographic condition that will require installation of ramps, steps, and other means of vertical circulation to provide pedestrian access to and from the parkland. While not wholly isolated from activities at street level, the greenway will be physically removed to some degree from the hustle-bustle above. Indeed, such separation from downtown's clatter and clutter is seen by the park's promoters as the project's essential attribute—creating a verdant slice of nature for the general public to enjoy amid Austin's boisterous urban core.

Proponents point to New York City's High Line and Houston's Discovery Green as exemplary precedents that demonstrate how such projects have elevated their city's quality of life and expanded the public realm for the pleasure of residents and visitors, as well as catalyzing capital investment on adjacent parcels owned or under the control of the private sector.

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[1] Leslie Browder, budget director for the City of Austin, provided the estimate during a 2010 presentation to the Waller Creek Citizens Advisory Committee.

Research Question

My report focuses on this question: How can public-private partnerships – i.e., formal contracts between local government and other entities such as nonprofits and private-sector developers – enable expansion of the public realm within the Waller Creek corridor to achieve an optimal "blurring" of boundaries between municipal parkland and neighboring private property?

To answer that question, I've collected a multitude of data pertinent to various facets of Waller Creek's downtown reach, including reports undertaken to solve the long-standing problem of its periodic flooding, as well as planning studies dedicated to re-imaging the east side of Austin's urban core after the threat of catastrophic inundation has been effectively eradicated.

For the purposes of this report, I've narrowed my focus to a nine-block segment of the approximately mile-long area defined by the Waller Creek District Master Plan. That document, adopted by the Austin City Council in 2010, recommends policies to guide redevelopment of real estate located between East 15th Street at its northern extreme and downstream almost to the creek's discharge into Lady Bird Lake to the south [ROMA Design Group, 2010]. My narrower focus (see Figure 1) is on the stretch between Cesar Chavez Street and East Ninth Street, a zone encompassing the equivalent of 16 city blocks directly adjacent to the planned linear greenway.

Figure 1: The highlighted area represents the scope of this report, which is pared down from the mile-long Waller Creek Greenway being developed in downtown Austin. (ROMA Design Group]

Chapter II: Background

This chapter traces the history of Waller Creek, detailing its role in Austin's establishment in 1839 and the perilous circumstances the city's residents have endured due to its recurrent flooding, conditions only worsened by decades of continuous urbanization.

Disregarded Potential

Human activity along the stream known today as Waller Creek dates to the Pleistocene epoch, as far back as 15,000 years, when nomadic hunters roamed the inland savannah and discovered springs feeding into a deep alluvial delta. Eventually, as the theory goes, they brought seeds gathered elsewhere along their travels and planted nut trees and other fruitful flora in the fertile bottomland. Their deliberate interventions, commingled with nature's dynamic processes over subsequent millennia, produced a rich riparian ecosystem that flourished as early as 1000 A.D. As late as the mid-nineteenth century, roving tribes continued to periodically inhabit the area, attracted by bountiful flora and fauna living along the creek [Anderson, 2013].

Waller Creek's prehistoric era ended in 1836 when the fledgling Republic of Texas, having just won independence from Mexico, set out to establish its capital along the Colorado River. Soon after his election as the republic's first president, Mirabeau B. Lamar sent Edwin Waller to a place where Lamar had once hunted buffalo and recalled as being graced with natural beauty and copious fresh water. Waller was tasked with surveying the site and mapping the metes and bounds of the frontier settlement.

In 1839, Waller and his crew laid out the city in a taut grid of streets loosely bracketed on the east and west by spring-fed streams that flowed southward into the Colorado at separate points on its northern bank. The eastern tributary was named after Waller, who soon would be

elected to serve as Austin's first mayor. Curiously, those early urban planners disregarded the serpentine paths of the two creeks that both ran counter to the plat's rigid geometry. With Shoal Creek forming its western edge, the newly established frontier capital was bounded on its eastern fringe by the elongated incision of Waller's namesake creek, which meandered through 19 of Austin's 190 original city blocks. Despite the two creeks' conspicuous presence, Waller's plan (see Figure 2) omits any consideration of either's potential as a civic amenity offering the accommodation of social gatherings or enjoyment of open space. This apparent disregard for the expansion of Austin's public realm aligns with the commonly held attitude of most nineteenth-century city planners charting the future growth of settlements across the United States.

Regardless, Waller Creek by design became an integral feature of the townscape, a potentially volatile natural resource seamlessly knit into its urban fabric.

Figure 2: Edwin Waller's 1839 Plan for Austin shows Waller Creek at far right. [City of Austin]

Recurrent Flash Flooding

Unfortunately for those early Austinites residing near Waller Creek, periodic flooding also would become intricately laced through the capital city's history. The first recorded instance of a significant flood on Waller Creek occurred in 1833 and again in 1836, three years before Waller began his survey, with others reported in 1843, 1852, and 1866, the last one causing the death of one person at the creek. In 1869, fed by about 60 hours of rainfall, Waller Creek overflowed its banks at Pecan Street (today's Sixth Street), which previously had been considered safe from inundation due to its elevation [Wright, 2013]. At least another seven more floods occurred in four subsequent decades. By 1900, with Austin's population unofficially topping 31,000, the area around Waller Creek had grown dense with liveries, saloons, offices, hotels, and private residences. Then, in April 1915, the most disastrous flooding up to that time killed 15 people along Waller Creek (see Figure 3) [Fry, 2013].

The historical record indicated a fairly regular pattern, with severe flooding of Waller Creek taking place at least once every decade, preceded by a sustained and intense downpour. Consternation over the potential damage from the next deluge vexed the aspirations of both public and private sectors for making permanent improvements. A 1974 assessment summarized the conundrum of Waller Creek's downtown reach:

> During the 100-year flood event, approximately 40 buildings along this reach will be inundated above the elevation of the first floor. …Of the 14 public roadway crossings of Waller Creek downstream of 15th Street, 5 are overtopped during a 10-year storm and 12 are inundated during the 100-year event. The extent of the regulatory floodplain and the relative frequency of bank full flows in the downtown area serve to limit commercial development options in an area with significant potential for compact, high quality, mixed-use development [Loomis and Associates].

Figures 3 and 4: Flooding in 1915 (top) killed 15 people along Waller Creek. A century later (above), surging storm water continued to threaten life and property. The masonry bridge at East Sixth Street is visible in both photos. [Austin History Center; Waller Creek Conservancy]

While a 100-year flood could potentially occur at any time, there is a one percent chance it might happen in any given year. The defining factor is the cumulative amount of rainfall within a short period of time, which could range from six inches over the course of three hours to 10 inches over 24 hours [Espy, 2013]. Lesser amounts of rain can also be devastating, with sudden storms representing a continual threat to Austin and surrounding communities due to their geographic location within a climate transition zone abutting the craggy geological fault known as the Balcones Escarpment. Atmospheric conditions periodically result in large volumes of moisture-laden air converging from the distant Pacific Ocean and the nearby Gulf of Mexico, which collide with unstable dry air hovering over western Texas [Espy]. The combined frequency and intensity of such natural events is noted by the National Weather Service, which identifies the region as the most flash flood prone in the U.S. Indeed, these circumstances have earned the region the sobriquet of "flash-flood alley." Austin, in particular, due to urbanization, is vulnerable because rapidly moving runoff sweeps across the downtown's mostly impervious ground surfaces and collects in its lowest elevations. At downtown's eastern edge, it's Waller Creek, already channeling storm water accumulated from six miles upstream from the city's core, that receives the additional runoff and sends it churning southward to the Colorado River.

Relentless Degradation

In addition to weather-related troubles, man-made problems also have afflicted Waller Creek increasingly since Austin's earliest days. Wholesale and indiscriminate disregard for the creek and its ecosystems manifested soon after the founding of the capital, a thriving frontier settlement that immediately began attracting a steady influx of new residents. Some of them, enticed by the creek's utilitarian convenience, built homes and opened businesses nearby.

Austin's first inhabitants described Waller Creek as "clear" and "teeming with fish" [Waller Creek Joint Venture, 1976]. Its pristine waters, however, were soon doomed to noxious abuse as the city grew. By 1850, already having been degraded by persistent use as an urban drainage ditch by residents and commercial operations, its exploitation ratcheted up to an industrial scale when the creek began to receive the offal of slaughtered livestock from the city's first butcher pens [Waller Creek Joint Venture]. Subsequent decades saw the expansion of enterprises attracted by the waterway's functional value, as noted in a later summary of its legacy of neglect in the early twentieth-century: "The lower section of Waller Creek became a useful site for Austin's food processing, foundries, warehouses, laundries, and shotgun houses and shanties…" [Waller Creek Joint Venture].

In 1913 a reporter described the dreadful environment along the creek in the starkest terms: "Waller Creek is an open sewer from Nineteenth Street to the river… On both sides of this creek are jammed together small shacks, some of which sit on stilts out over the banks…" The scribe counted 122 outhouses emptying directly into the creek or standing within six feet of its edges, adding that residents and others, including children attending school at Ninth Street "are forced to breathe the foul air which the south wind drives up the walled sides of this filthy sewer" [Fry].

Perhaps having reached its nadir in 1938 as a disturbing public nuisance, a young U.S. Congressman named Lyndon Baines Johnson publicly decried the "sordid surroundings" suffered by poor families residing along the banks of Waller Creek. Johnson, in a radio address, bemoaned such filthy living conditions existing just blocks from the State Capitol and also denounced creek-side "shanties" as "hot beds of crime" [Graham, 1995].

Four decades later, an official assessment in 1974 found little improvement:

> Waller Creek is probably the most seriously polluted of Austin's urban creeks. It receives heavy loads of nutrients and a variety of noxious chemicals from storm sewers, domestic sewage leakage and overflow during storms, and various discharges from local homeowners and adjacent institutions. This is reflected in a low diversity of aquatic organisms, heavy algal growths, and unpleasant odors along must of the creek, especially the lower reaches. Few aquatic organisms exist along the commercial stretch below 10th Street [Waller Creek Joint Venture].[2]

A 1992 study of Town Lake (later renamed Lady Bird Lake) concluded that Waller Creek "contributes the largest number of pounds per acre per year of uplands pollutant loads of any watershed to Lady Bird Lake…" In addition, the same report stated that Waller Creek contributes the third largest sediment load to Lady Bird Lake, which was "approximately 10 million pounds per year, and approximately 10% of the [total suspended solids] load." Waller Creek's contributing sediment load was attributed to channel erosion [Brown & Root/Espey Padden Joint Venture, 2009].

Flash flooding only compounds such ecological problems, with periodic inundation scouring the creek's bottom and embankments of vegetation that supports what little animal life that exists there. Over time, rapidly moving water from storm runoff results in erosion that widens the channel, which only exacerbates the abrasion of soil during the next flood by funneling even more storm water through its ravaged trough.

In 2010 the blighted riverine conditions still persisted:

> Waller Creek faces considerable challenges today. It has serious problems related to environmental health, safety and sustainability, image, appearance and identity, and connectivity within the corridor and to other parts of the city. …Waller Creek still remains essentially a negative element in the city, plagued by flooding, homeless encampments, pollution and neglect [ROMA Design Group].

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[2] 1974 assessment by Espey Hutson, Engineers commissioned by City of Austin.

Figures 5 and 6: (top) Decades of human activity have resulted in relentless environmental degradation of Waller Creek and its environs. (above) Urbanization also has contributed to continual erosion of the creek's embankments and undermining of improvements along its downtown reach. [City of Austin; www.americantrails.org]

Chapter Summary

This chapter highlights Waller Creek's history, describing how its meandering course was all but ignored by the frontier town's original planners and how the spring-fed creek was soon afterward channeling the burdens and misfortunes of urban existence. Other historical aspects detailed in this chapter include:

• the contribution of urbanization to the creek's degradation due to its being surrounded at its southern extreme by acres of concrete and asphalt, which funneled sundry debris and noxious substances into the channel with every downpour;

• major rain events' worsening its plight by scouring the creek of vegetation and thus inducing erosion of its earthen embankments; and

• the occurrence every 10 years or so, until only very recently, of runoff fed by an intense storm surging over the creek's edges and inundating adjacent buildings and civic infrastructure.

The following chapter describes efforts taken in the latter half of the twentieth century to remedy the problems Waller Creek posed for Austin and its residents, including an under-funded attempt at improvements. The next chapter also relates:

• the 1996 study that put into motion the city's two-decades-long initiative to divert storm runoff from Waller Creek and through a tunnel underneath downtown;

• the project's initial funding by a 1998 referendum;

• steps taken to design the tunnel and its associated infrastructure to ensure the flood-control system would protect Waller Creek's environs from a 100-year flood; and

• creation of a tax increment financing (TIF) district to fund the tunnel's construction, maintenance, and operation.

Chapter III: Taming Waller Creek

This chapter recounts the planning of measures to improve conditions along Waller Creek, beginning with civic improvements in the 1970s that fell short of adequately addressing the threat of catastrophic inundation. Also chronicled are steps taken toward determining a long-term flood-control strategy and a means to finance that multi-million dollar public works project.

Planning the Solution

Considering the hazards arising from both nature and humankind, perhaps it's no surprise that Austinites viewed Waller Creek with apprehension and for decades declined to ponder its potential for enhancing the downtown's public realm. But in the 1960s and '70s public perception of environmental degradation slowly began to change across the U.S., with Americans coming to recognize the societal advantages of reclaiming rivers and lakes from the cumulative effects of rampant pollution and abject neglect. Residents of the Texas capital also had to face the additional problem of recurrent flash-flooding that compounded the ecological abasement of Waller Creek. Austin, with its downtown fully developed by the close of the twentieth century and nearly every inch imperviously covered, eventually would realize that a flood-control strategy was the key to unlocking the potential of Waller Creek and its environs.

Concurrent with the nation's environmental awakening, a collective reassessment began in the 1970s that culminated with an initiative to transform Waller Creek from an urban eyesore to an inner-city amenity. The Waller Creek Development Plan of 1975, part of the city's homage to the U.S. Bicentennial, enlisted the skills of design professionals to solve its daunting plight. The multi-faceted effort, its findings published the following year as a booklet titled *Austin Creeks*, proffered methods for controlling flash flooding, re-establishing a healthy riverine

ecology, and installing trails and bikeways (see Figure 7).[3] However, limited funds forestalled many of the planned improvements and only allowed construction of various retaining walls and a disconnected series of sidewalks. As noted by local historian Stephen Fry, "…another twenty years would pass before the Austin City Council would resolve to invite public entities and private interests to share accountability and potential benefits for the creek" [Fry].

Such an approach, with public and private interests both sharing liabilities and assets, followed the 1996 release of an engineering study commissioned by city officials to analyze options for solving the underlying causes of Waller Creek flooding. Weighing the costs and chances for long-term success of several possible fixes, the consultant recommended a flood-control tunnel and estimated its cost to be $25 million.

Figure 7: *Austin Creeks* featured this illustration of Waller Creek, which highlighted plans for future improvements. Due to scant public funds, only a few were realized. [*Austin Creeks*]

[3] *Austin Creeks* noted that Waller Creek at the time was "rapidly moving toward fulfillment of its potential," with planning underway for its downtown reach to become an urban park with a zone dedicated for urban development.

A 1998 referendum asked Austin's voters to invest that amount in general obligation bonds to finance the project via receipts from hotel occupancy taxes. The following year saw the selection of a team to design a 22-foot diameter tunnel that would snake underground for a mile beneath downtown and also provide a controlled flow of water through the desiccated creek bed.

The intended result of the mammoth public works project was to radically shrink the 100-year flood plain and thereby similarly reduce the threat of future flooding within the Waller Creek corridor (see Figure 8). Without the tunnel, approximately 42 commercial and residential structures and 12 roadway crossings would continue to be imperiled by flash flooding. Engineers assured city officials that the strategy of diverting most surface runoff underground and directly into Lady Bird Lake "…will allow public and private development of over one million square feet of downtown Austin" [Espy].

Figure 8: The tunnel project's goal was radical reduction of Waller Creek's 100-year flood plain. (City of Austin]

With the 1996 release of the *Waller Creek Flood Management and Water Quality Improvements Study*, the City of Austin finally found a solution to its vexing problem. The city had commissioned Loomis & Associates to study its causes and recommend the most cost-effective approach to remedying the situation once and for all. In addition to flood control, at the city's request, the scope and purpose of the report included "mitigation of the impacts of development on water quality in the basin as a whole, and expansion of opportunities for urban development in the downtown area. [Loomis & Associates, 1996]"

To better understand the conditions affecting the health and the future prospects for Waller Creek, the consultant reviewed several earlier studies, including *Lower Waller Creek Development Plan* (1976) by Waller Creek Joint Venture; *Flood Plain Hydrology Study, Flood Plain Hydraulics Study, and Preliminary Study and Conceptual Design of a Flood Bypass Tunnel for Waller Creek* (1985-6) by Hydrosystems Engineering and Camp Dresser & McKee; and *R/DAT Report* (1991) by the AIA Regional Design Assistance Team.

Furthermore, to see Waller Creek in a comprehensive manner, Loomis & Associates looked beyond the creek channel and focused on the 5.72 square miles (3,700 acres) that comprised the Waller Creek watershed. Very densely developed at almost 98 percent, according to the consultant, the area represented a broad expanse of functions: "The predominant land uses in the basin are single family residential (37.1%), civic/educational (23.7%), commercial (11.4%), office (6.7%), multi-family (6.4%), major roadways (4.9%), industrial (4.0%), and parks (3.5%)." The consultant also reported the location of significant landmarks within the watershed, including the State Capitol, the Convention Center, the University of Texas, Memorial Stadium, the Erwin Center, the Hyde Park neighborhood, the Sixth Street entertainment district, and St. David's and Brackenridge hospitals [Loomis].

Based on its analysis, the consultant concluded: “Four types of flood control measures were investigated and are considered capable of providing significant reductions in flood hazard and flood damages: 1) channel improvements; 2) flow diversions; 3) regional stormwater detention; and 4) floodproofing. Of these, only channel improvements and flow diversion are considered capable of independently meeting the primary flood control goals” [Loomis].

In support of its recommendation, the report stated:

> The most cost-effective means for achieving the primary flood control goals with a minimal amount of land disturbance and a maximal amount of water quality improvement impact is through construction of an 18- to 20-foot diameter flow diversion tunnel under Trinity Street. The tunnel will cost approximately $14–18 million. The tunnel will divert flows from Waller Creek in Waterloo Park at 15th Street and outlet flows to Town Lake along its banks just east of the Four Seasons Hotel. The path of the tunnel will be largely confined to public rights-of-way under the two parks and Trinity Street to minimize right-of-way purchase requirements [Loomis].

In the report’s summary, the consultant outlined specifications for the tunnel’s design and construction, as well as the anticipated outcome once the tunnel began operation:

> The tunnel will be designed such that, during the 100-year design flood, the tunnel will flow full and Waller Creek will flow with no water in the overbank and no overtopping of bridges. The tunnel will function as a pressure flow conduit, with flows entering the tunnel at the upstream end pushing water out at the downstream end. The tunnel will be approximately 5,500 feet long and will be excavated … at a depth of approximately 60 feet below the natural grade of Waterloo Park and 40 feet below the normal water surface elevation of Town Lake [Loomis].

As conceived by the engineering team, storm water would enter and exit the tunnel through vertical shafts located within inflow and outflow structures at its north and south end,

respectively, with the above-ground components designed to blend in as inconspicuously as possible with surrounding park amenities. The report also stated:

> The tunnel will remain full of water except when it is drained for maintenance including periodic removal of accumulated silt. Water contained in the tunnel will be subjected to continuous pumping into Waller Creek at Waterloo Park to prevent water quality problems related to stagnation. As water is pumped from the tunnel, it will be replaced with clean flows from Town Lake [Loomis].

Designing the Tunnel

With $25 million in public funds approved in the 1998 referendum, city officials began the process of planning the tunnel design phase. One of the first steps was to commission a study to determine the expected flow patterns of storm water as it approached the entrance of the tunnel at Waterloo Park and along its subterranean journey southward. The city hired KBR/Espey Joint Venture (a partnership between Kellogg Brown & Root Services and Espey Consultants) to provide civil engineering expertise. From 2001 through 2010, the tunnel system's specifications evolved as conceptual models were studied. Notably, the system's design was based on containing flows from a 100-year (i.e., a 1% or 1 in 100 annual chance) storm event but did not account for conditions potentially emanating from a 500-year (i.e., a 0.2% or 1 in 500 annual chance) storm [KBR/Espey Consultants, 2010].[4]

In 2010, once optimal specifications were determined, KBR/Espey, in conjunction with Crespo Consulting Services, tapped Alden Research Laboratory to construct a 1:33 reduced scale model and conduct hydraulic studies. Then, in July, the joint venture's hydraulic team, which

[4] According to Karl McArthur, a flood plain management engineer with the City of Austin's Watershed Protection Department, mapping of the post-tunnel 500-year flood plain was underway at the end of 2017. In a December 1, 2017 email, he stated: "In order to delineate this floodplain the maximum as-built capacity of the tunnel needs to be determined."

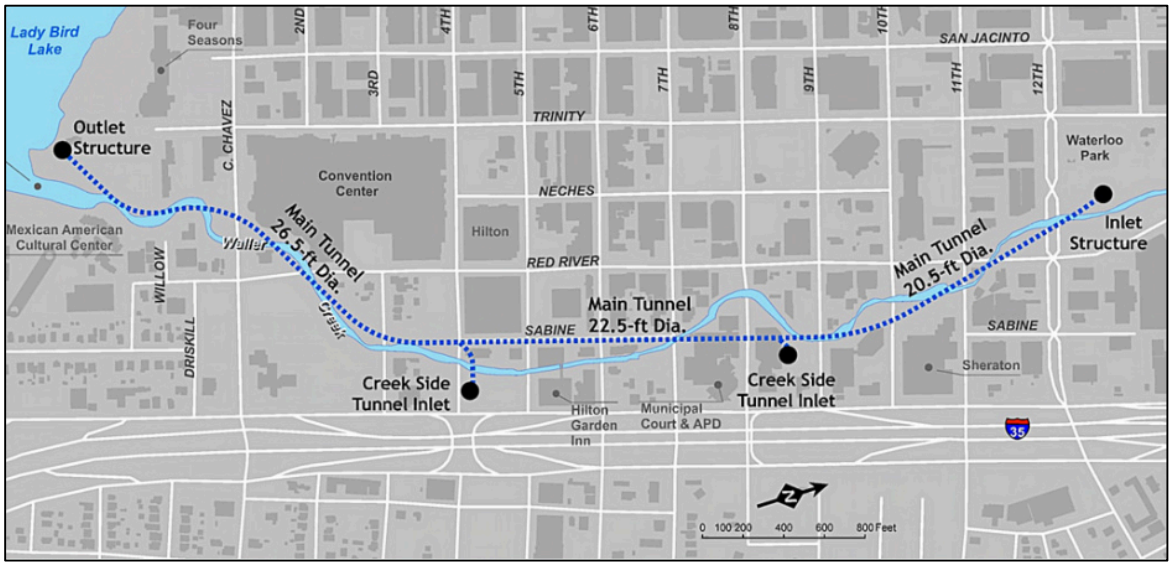
included city staff, met in Holden, Massachusetts, to observe simulated operations of the tunnel and the complex fluid dynamics occurring within the model [KBR/Espey Consultants].

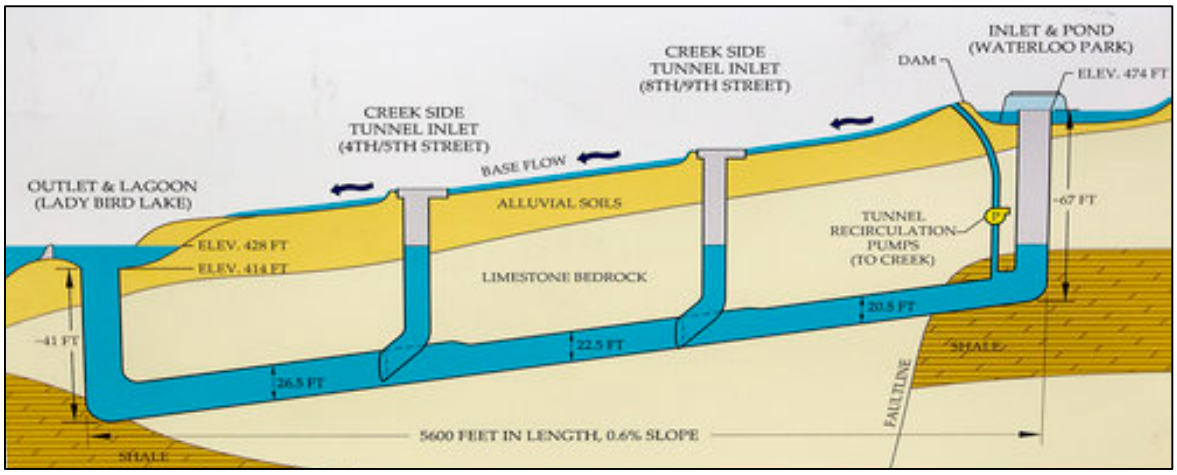
Alden Research Laboratory compiled its findings in an October 2010 report that contained copious quantitative data about the technical aspects of the tunnel simulation while acknowledging that subsequent interpretation of the findings would inform the final design. "Given the unique nature of the project," the report stated in its introduction, "special attention and analyses have been conducted to better evaluate the performance of the proposed system so that the design team can improve the design over and above a design that would otherwise be limited to information in available literature" [Alden Research Laboratory, 2010].

For purposes of defining its scope, Alden Research Laboratory's report divided the tunnel project into four components: the tunnel inlet, "a 42 ft diameter (at crest) circular spillway ('morning glory') drop structure with a channelized segment of Waller Creek upstream of 12th Street"; the tunnel, "an arch-pipe approximately one mile in length with a diameter varying from 20–26 feet, located at a depth of between 60–80 feet below grade"; two inlet weirs, "on the east side of the creek just upstream of 8th Street and 4th Street, a lateral weir upstream of each street will intercept additional flow and divert it to the Tunnel"; and the tunnel outlet, "a 40-foot diameter vertical shaft connected to a horseshoe-shaped stilling basin that conveys tunnel flow across a 150-foot weir into Lady Bird Lake" [Alden].

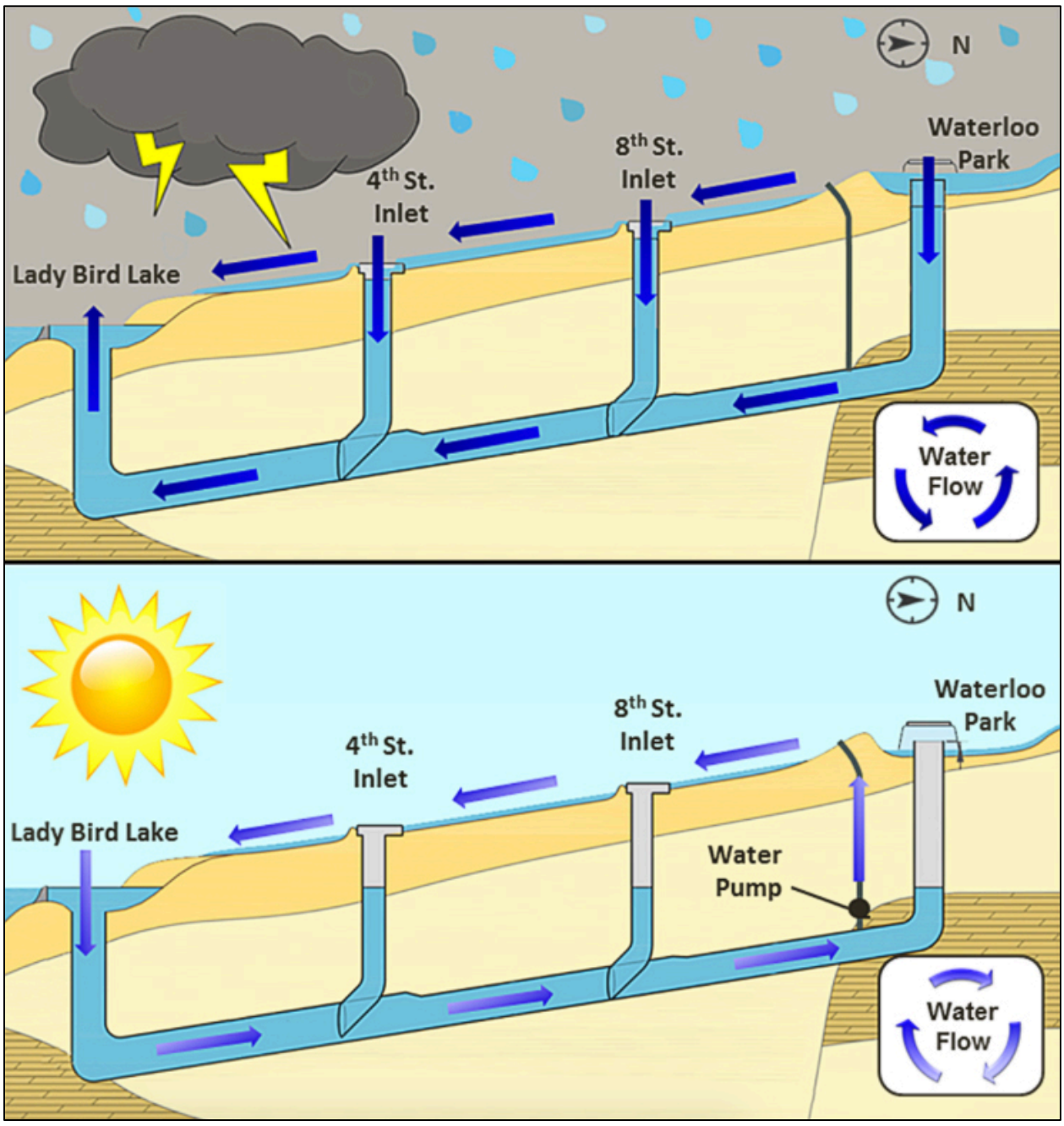
Apart from the tunnel itself, the inlet facility represented the project's second most complex component. In preparation for that aspect of the project, city officials in 2011 received the final draft of a report commissioned to assess the geological and geotechnical conditions at the extreme northern portion of the proposed tunnel. *Geotechnical Baseline Report: Waller Creek Tunnel Project Inlet Facility at Waterloo Park*, compiled by Jenny Engineering

Corporation, stated that construction of the inlet facility would require excavation to a depth of about 81 feet below the ground surface to connect with the tunnel. According to the consultant, almost all of the new infrastructure would be invisible to the public except the associated above-ground facility, known officially as the Tunnel Inlet Structure and Lagoon at Waterloo Park, which would be designed to blend in with other future amenities planned for the park (see Figure 17) [Jenny Engineering Corporation, 2011].





Figures 9 and 10: (top) From its main inlet structure in Waterloo Park, the tunnel extends southward almost a mile to Lady Bird Lake. (above) The bulk of the flood-control conduit remains a virtually invisible component of the cityscape. [City of Austin]



Figures 11 and 12: (top) By diverting storm water from street level via three inlet facilities, the tunnel lessens the threat of flooding along Waller Creek. (above) With water from the lake remaining inside the tunnel at all times, some will be pumped to the surface to flow continuously through the creekbed. [City of Austin]

Figures 13, 14, and 15: Views of the tunnel's outflow facility during construction. [City of Austin]

Figures 16 and 17: (top) Interior view of the tunnel during construction. (above) The main intake facility at Waterloo Park was designed to blend in with other improvements. [City of Austin]

Financing the Project

In its 1996 report, Loomis & Associates also recommended that the city study alternative financing mechanisms rather than relying on additional general obligation municipal bonds. Instead, the consultant noted the relative benefits of creating a tax increment financing (TIF) district "to capture enhanced tax revenues," as well as establishing public-private partnerships with groups such as the nonprofit Downtown Austin Alliance [Loomis].

Embracing the TIF concept, city officials negotiated an agreement in 2007 with the Travis County Commissioners Court establishing a TIF district to fund the tunnel's construction, as well as its operation and maintenance, along with servicing all associated debt. By that time, the estimated cost of construction had grown to $127.5 million [City of Austin, 2008].[5] On June 21, 2007, the two entities created Tax Increment Financing Reinvestment Zone No. 17, more commonly known as the Waller Creek TIF District (see Figure 18). For 20 years, it would capture a portion of ad valorem taxes on properties within a specific area surrounding the creek's downtown reach. Forecasts for TIF revenues were based on the anticipated rise in values of those parcels due to the future redevelopment. The TIF zone, encompassing 126 acres, was explicitly defined as

> …bounded on the west by Red River Street from 12th Street south to 3rd Street, then west along 3rd Street to Trinity Street, then south along Trinity Street to Lady Bird Lake; on the south by Lady Bird Lake from Trinity Street east to Cummings Street, then east along Cummings Street to East Avenue; on the east by East Avenue from Cummings Street north to the south bound access road of IH-35, the along the said access road north to 11th Street, then west along 11th Street to Sabine Street, and north along Sabine Street to Red River Street, and on the north by 12th Street between Sabine Street and Red River Street [City of Austin].

[5] By mid-2016, city officials had approved payments that pushed the cost above $163 million.

When the TIF district was created in 2007, the total assessed valuation of property within the district was $376.2 million (based on 2006 valuations), which became the baseline of which any increase would go toward funding the tunnel project. Although no significant redevelopment had occurred within the district during the one-year period following its creation, valuations increased by a total of $140 million (a 37% increase) over the baseline. By the end of the TIF district's 20-year term, local officials estimate that redevelopment will have increased the total value of properties within the district by $3.6 billion over the baseline [*Downtown Austin Blog*].

While there are no guarantees that redevelopment within the TIF district will ultimately reach its full potential, city officials anticipate the gradual emergence of a denser urban fabric over the coming years. Based on projections for redevelopment of so-called "opportunity sites," they forecast a yield up to 11.4 million square feet on those sites, which include both public and privately owned parcels, a significant increase over existing improvements on those sites. Economic projections took into account that building height is limited on most of the sites, a restriction related to state and local laws that protect sightlines (known as "Capitol View Corridors") to the nearby Texas State Capitol [ROMA Design Group].

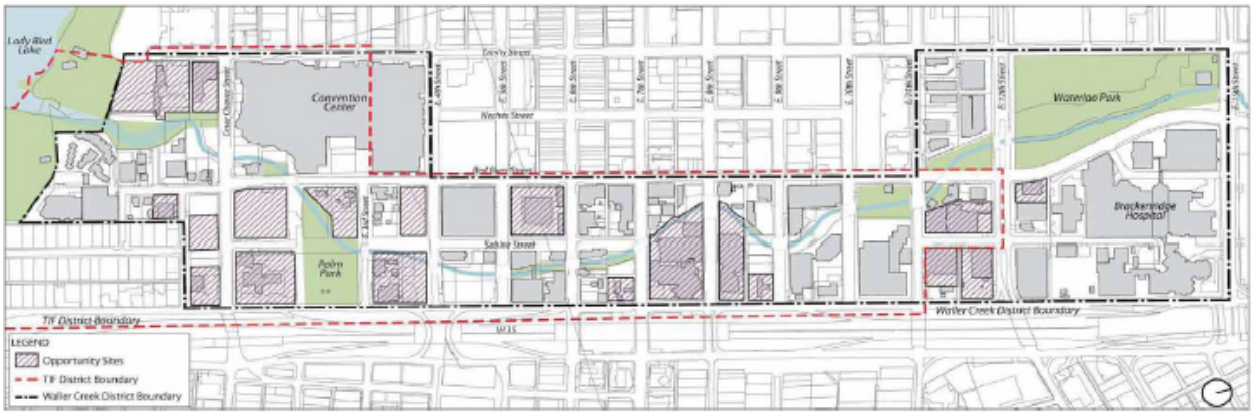


Figure 18: The red dashed line indicates the boundary of the Waller Creek TIF District. Hash marks denote "opportunity sites" where redevelopment is anticipated. [ROMA Design Group]

Chapter Summary

This chapter relates how, after 150 years of unmitigated abuse that rendered it a nasty "negative element in the city," efforts coalesced at the close of the twentieth century to solve the conundrum of Waller Creek by diverting storm water and radically reduce its 100-year flood plain. In addition, this chapter explains:

• the design of a flood-control tunnel and its associated infrastructure; and

• the creation of a tax increment financing (TIF) district to pay for the project.

The next chapter tells of the drive to consider Waller Creek as an urban amenity, with particular emphasis on its potential for positive economic impact and for expanding the city's public realm. Subjects to be covered include:

• aspects of the Waller Creek District Master Plan;

• founding of the Waller Creek Conservancy and its mission;

• the competition to select a team to design a mile-long linear greenway along Waller Creek; and

• the winning design firm's ideas for restoring the environmental health of the creek while also programming for recreational activities.

Chapter IV: Re-imaging the Waller Creek District

This chapter tells how local officials set out to chart a course for the future redevelopment of downtown's east side, with a focus on post-tunnel Waller Creek. First came the commissioning of a district-wide master plan, which was followed by the founding of a nonprofit organization dedicated to creating a linear greenway along the newly tamed creek.

'Underutilized and Abandoned'

In 2010, council members adopted the Waller Creek District Master Plan, a blueprint that re-imagined the urban waterway's environs once the tunnel project eliminated the threat of future catastrophic flooding. The document also detailed the challenges faced in achieving that vision due to existing conditions:

> …despite its central location, [Waller Creek] does not play a central role in the life of the community. Rather it is concealed within the Downtown, following a deep and narrow corridor that appears even deeper and is made narrower where it has been channelized. Periodic flooding has limited investment along the creek corridor, giving the area an underutilized and abandoned character.
>
> Over time, Waller Creek slipped from the consciousness of the larger city and took on the trappings of neglect. Although attempts were made in the past to build pathways along the creek, they were not always successful. In the most constrained reaches of the corridor, they resulted in the addition of concrete stairs, pathways and ramps that take away the opportunity for landscape or that encroach into the natural creek banks and bottom. Some pathways became an attractive nuisance, leading people down to places that are unattractive, unsafe and unsanitary. The creek corridor became a refuge for homeless people who find shelter under the bridges and along the paths. Despite city maintenance and periodic clean up events, the creek is littered with trash and debris. Aging infrastructure exacerbates the problems of pollution, and water quality is affected by storm sewer discharges and the potential for leaking wastewater lines [ROMA].

In its summary, the planning team described a bright future for post-tunnel Waller Creek:

> …The Tunnel Project, along with the improvements of the creek corridor, will create enhanced opportunities for redevelopment. The redevelopment of the private and public lands adjacent to the corridor is not only an important step in providing the economic basis for the tax-increment financing district, but is also important because it creates an intensity of activities and uses that will help enliven the creek corridor and create a more vital district. The Plan proposes a variety of different scales and types of uses, from live/work and small-scale buildings to more intensive office and residential uses and cultural/institutional complexes. …A broad spectrum of new development opportunities will contribute to the diversity of living and working environments in the city, will build a population with direct interests in the on-going quality of the creek corridor and will create a vibrant and vital place within the heart of the city [ROMA].

The master plan encompassed an area, the equivalent of slightly more than 60 city blocks, defined as one of nine districts previously established by the Downtown Austin Plan (DAP). Notably, DAP's goals for the Waller Creek District included a call for transforming the creek into a greenway "that connects the surrounding community" [City of Austin, 2011].[6]

The Waller Creek District Master Plan also highlighted opportunities for improving community linkages at street-level, noting the benefits for the district's public realm: "Streets provide light, air, greenery and landscape as well as space for the sociable engagement of the population" [ROMA].

Yet, in spite of a multitude of street-level enhancements, the district master plan made clear that the most critical improvements must be focused on the creek channel: "…there is an exciting opportunity to reconnect and reorient the city to the creek and make it the centerpiece of

[6] The Downtown Austin Plan was approved by the Austin City Council in 2011.

a revitalized east side of Downtown." And to achieve that goal, the consultant continued, "…Waller Creek needs to be improved as a high quality amenity" [ROMA].

Envisioning a New Urban Park

Concurrent with the Waller Creek District Master Plan's 2010 release, a group of prominent Austinites established a nonprofit organization dedicated to fulfilling the master plan's vision. By focusing on creating that missing "centerpiece," the organizers of the fledgling Waller Creek Conservancy set out to kick-start the regeneration of the city's long-neglected asset.

As mentioned earlier in this report, previous attempts to enhance conditions along the creek's downtown stretch achieved only limited success and none had adequately addressed the larger problem of flood control. But after the creation of the Waller Creek TIF district in 2007 to finance the tunnel project, the new 501(c)(3) conservancy, encouraged by several city council members' long-term commitment to redeveloping downtown's east side, began laying the organizational groundwork to achieve its vision of a linear greenspace designed around the artificial waterway that would supplant Waller Creek. The council members, Sheryl Cole and Betty Dunkerly, had previously formed the volunteer Waller Creek Citizens Advisory Committee that helped shepherd the early phase of the tunnel project. Later, Cole and her fellow council member Randi Shade recruited private citizens to organize and lead the Waller Creek Conservancy, starting with Melba Whatley and Tom Meredith.

In 2011, the conservancy partnered with the City of Austin to sponsor a design competition focused on the rebirth of Waller Creek as a vital, riparian ecosystem. Thirty-one design teams submitted entries, with the competition jury short-listing four multi-disciplinary teams for a second round of conceptual proposals. The jury ultimately selected a New York City-

based team led by landscape architecture firm Michael Van Valkenburgh Associates (MVVA) and assisted by architect Thomas Phifer & Partners for an approach to the design problem that went far beyond mere aesthetics. Significantly, Van Valkenburgh's firm had been part of the team that designed the High Line in New York City, which the conservancy's leaders viewed as one of their models for the Waller Creek Greenway. In the jury's comments on MVVA's entry, panel members lauded the winning team for its "commanding knowledge of the underlying social, ecological and technical issues of this project [and for offering] an integrative and transformative design for the Waller Creek district…" [Stastny, 2013].

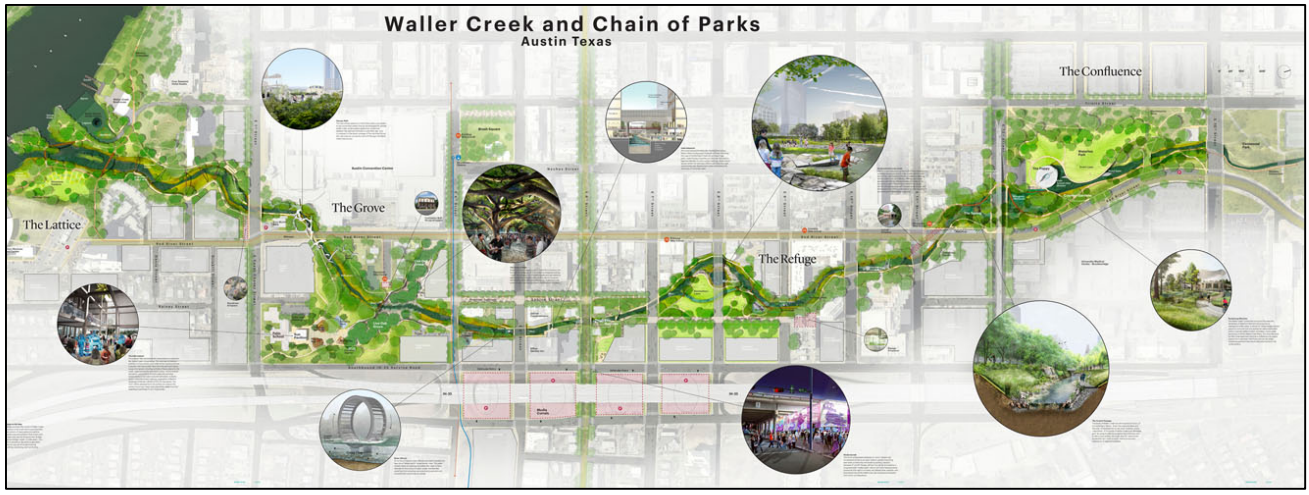


Figure 19: Michael Van Valkenburgh Associates' competition-winning entry envisioned a linear greenway punctuated by four urban parks featuring distinct landscaped environments. [MVVA]

Figures 20 and 21: VVMA's entry included two 'before and after' creek settings to illustrate the potential for reconstruction of eroded embankments, restoration of native flora, and addition of trail improvements. [MVVA]

Figures 22 and 23: VVMA's concept also depicted two new open spaces along the creek, Palm Park (top) and The Refuge (above), offering two very different settings for recreation. [MVVA]

Chapter Summary

This chapter describes the planning of the Waller Creek District, conceived with an eye toward wholesale redevelopment and the widespread impact that improvements to the public realm are expected to have on the eastern edge of downtown. Also covered are:

• formation of the Waller Creek Conservancy, a nonprofit devoted to implementing a chain of parks along the newly tamed creek;

• the conservancy's sponsorship of an international competition to choose a team for the design of a mile-long greenway with four new parks; and

• selection of Michael Van Valkenburgh Associates, part of the team that designed New York City's popular High Line urban park, for the project.

The following chapter recounts how public-private partnerships have advanced plans for the Waller Creek District and its public realm. The following topics are featured:

• definition of the term *public-private partnership*;

• precedents for public-private partnerships in Austin;

• creation of a public-private partnership between the City of Austin and the Waller Creek Conservancy that specifies each party's duties and responsibilities related to parkland improvements along the future greenway;

• details of a public-private partnership between the City of Austin and the developer of a new hotel, which facilitated construction of a "skybridge" and the span's incorporation as part of the city's trails network; and

• strategies taken by the conservancy to integrate the greenway's public realm with adjacent private development.

Chapter V: Public-Private Partnerships

This chapter details the use of public-private partnerships in achieving initial steps toward the revitalization of Waller Creek and its environs, and how the alliances are intended to affect the downtown's public realm. Also, this chapter summarizes how earlier partnerships helped the City of Austin realize two large redevelopment projects.

Local Precedents

In the early stage of Waller Creek's renaissance, public-private partnerships have created significant alliances between local government and representatives of the private sector with interests in the success of the Waller Creek District and its associated TIF entity. Chief among them are the city's partnerships with the Waller Creek Conservancy and the Waller Creek Local Government Corporation, a nonprofit corporation that effectively stands in for the City of Austin on issues related to financing the tunnel project and overseeing design and implementation of improvements along the creek. Public-private partnerships also are contributing to the beneficial integration of the public realm with private redevelopment projects.

While the term *public-private partnership* may appear self-explanatory, a precise definition might be helpful. The Urban Land Institute, a nonprofit organization of volunteer members representing an array of land use and development disciplines, states: "Public/private partnerships are considered 'creative alliances' formed between a government entity and private developers to achieve a common purpose" [ULI, 2016]. That creative aspect of an alliance can be significant because every public-private partnership faces a unique set of challenges, and its chances of success may rise when its partners think innovatively about how to overcome obstacles. ULI has long championed the creation of public-private partnerships over "the

traditional process," the latter of which it likens to "an arm-wrestling contest between local government and the developer to see which will win distinctly different prizes." According to ULI, such partnerships "replace potential confrontation with collaboration and cooperation to achieve shared goals and objectives" [ULI, 2005]. For a public-private partnership (PPP) to succeed, however, both the public and private entities must rigorously manage the varied and complex aspects of the partnership. Equally important, each partner must balance individual ambitions with communal aspirations [ULI, 2016]. For this report, I include nonprofit groups as serving in the capacity of a private-sector entity.

Public-private partnerships have a long history in the U.S., with one of the oldest dating to 1792 when a private company broke ground on a 62-mile paved roadway to connect farmers west of Philadelphia to markets along the Atlantic coast. The Philadelphia and Lancaster Turnpike Road Company partnered with the Commonwealth of Pennsylvania, which provided public easements, on the project considered to be the nation's first long-distance engineered transportation corridor [Wikipedia, 2017].

Prior to the tunnel project and the start of subsequent redevelopment along the Waller Creek downtown corridor, the City of Austin has engaged in several public-private partnerships, including recent contractual relationships related to redevelopment of the former municipal airport and a downtown brownfield site now known as the Seaholm District.

In the Seaholm District, a series of PPPs contributed to the redevelopment of a former industrial site located just southwest of the central business district and along the northern shore of Lady Bird Lake. Three expansive municipal facilities – the Seaholm Power Plant, the Thomas C. Green Water Treatment Plan, and the Austin Energy Control Center – previously occupied the eight-acre brownfield site, newly christened an "eco-district." In contrast to Mueller, the city sold

some parcels to private developers under terms set out by various public/private partnership agreements. By 2017, along with the completed transformation of the cavernous 1951 Moderne-style power plant into 100,000 square feet of offices and restaurants, the district contained a 22-story hotel/condominium tower, three acres of open space, the city's 250,000-square-foot central library, as well as numerous retail and commercial concerns.

Perhaps Austin's best-known PPP is embodied in Mueller, an ongoing mixed-use redevelopment of Robert Mueller Municipal Airport following its deactivation in 1999. The city, while retaining ownership of the land, selected Catellus Development Corporation in 2004 to develop the 711-acre site as a planned unit development (PUD) under guidelines specified in the Mueller Master Plan. Progressing in phases over a 20-year period, Mueller currently contains a variety of housing types, as well as commercial, institutional, and office spaces. Among its most prominent occupants is Dell Children's Medical Center of Central Texas.

Similar to the city's strategy for financing the Waller Creek Tunnel, the redevelopment of Mueller involves another type of public/private partnership known as a local government corporation. LGCs operate in Texas as nonprofit corporations formed by a municipality or county to act on behalf of the local government. Considered "quasi-governmental" under state law, LGCs have the powers and duties of both public and private entities. Among those powers is the ability to issue bonds, which limits the financial risk that a local government might otherwise take on and thereby protects the local government's credit rating [Bui, 2011].

The Mueller Local Government Corporation was established in April 2006 by the Austin City Council and later that year issued $12 million in contract revenue bonds. The LGC issued another $15 million in bonds in 2009 and $16.7 million's worth in 2012.

The Waller Creek LGC's mission, however, extends beyond its issuance of bonds related to financing of the tunnel project via the Waller Creek TIF district. In addition, the LGC has partnered with the City of Austin and the Waller Creek Conservancy "to strategically plan, coordinate, and deliver projects" along the downtown corridor. As stated by the LGC: "This monumental effort involves public and private partnerships to navigate the challenges of funding, property acquisition, utility coordination, and creation of signature destination reaches along Waller Creek [Waller Creek LGC].[7] The LGC, with support from the city and the conservancy, serves as the district's governing body and "is charged with critical decisions in the design and implementation process" [Waller Creek Conservancy website].

Joint Development Agreement

Another public-private partnership that has enabled the renaissance of Waller Creek came about in April 2014 when the City of Austin signed a joint development agreement (JDA) with the Waller Creek Conservancy and the Waller Creek LGC. The agreement spells out the three parties' respective roles in achieving specific goals over an initial 20-year term.[8] As the JDA's introduction summarizes: "The Agreement describes the process by which each project will be designed, funded, and constructed. It also contains related agreements, including the operating agreement, council-approved Design Standards, and council approved Design Guidelines." The work is primarily associated with the construction of four public parks planned along Waller Creek's downtown reach and extensive improvements to the existing Waterloo Park, the site of the tunnel project's intake facility [*Waller Creek District JDA*].

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[7] From Waller Creek LGC's "2016/07" progress report.

[8] The agreement can be renewed multiple times for 10-year terms.

The JDA formalized a previous memorandum of understanding between the city and the conservancy, while also adding the LGC as liaison between the municipality and the nonprofit conservancy. The LGC was created in April 2011 to protect the public's interest by reviewing work taking place within the Waller Creek District by the city and/or the conservancy. In addition, the agreement requires the LGC to periodically conduct open meetings to keep the public informed of the projects' progress and other aspects of the public-private partnership between the city and the conservancy [*Waller Creek District JDA*].

Encroachment Agreement

Another public-private partnership considered significant to the future success of the Waller Creek Greenway and the associated public realm involves a "skybridge" spanning the creek to connect the Fairmont Hotel and the Austin Convention Center. While its primary purpose being to provide hotel guests with direct access to and from convention activities, negotiations between the City of Austin and the hotel developer/owner forged an encroachment agreement that allows the general public to use the span as a component of the municipality's outdoor trails network. Participants in the City of Austin's lengthy approval process recall the effort as particularly complex, albeit ultimately successful in spite of the Downtown Austin Plan's explicit recommendation that the "City should not permit sky-bridges…to project into the public right of way" [Anderson, 2017; City of Austin, 2011].[9]

Approved by the City Council in 2015, the encroachment agreement grants the hotel's developer/owner, Manchester Financial Group, a 99-year ground license to use several municipal rights-of-way for construction and operation of the bridge that will stretch roughly 250 feet

[9] A second downtown skybridge was approved by the municipal planning commission in 2017.

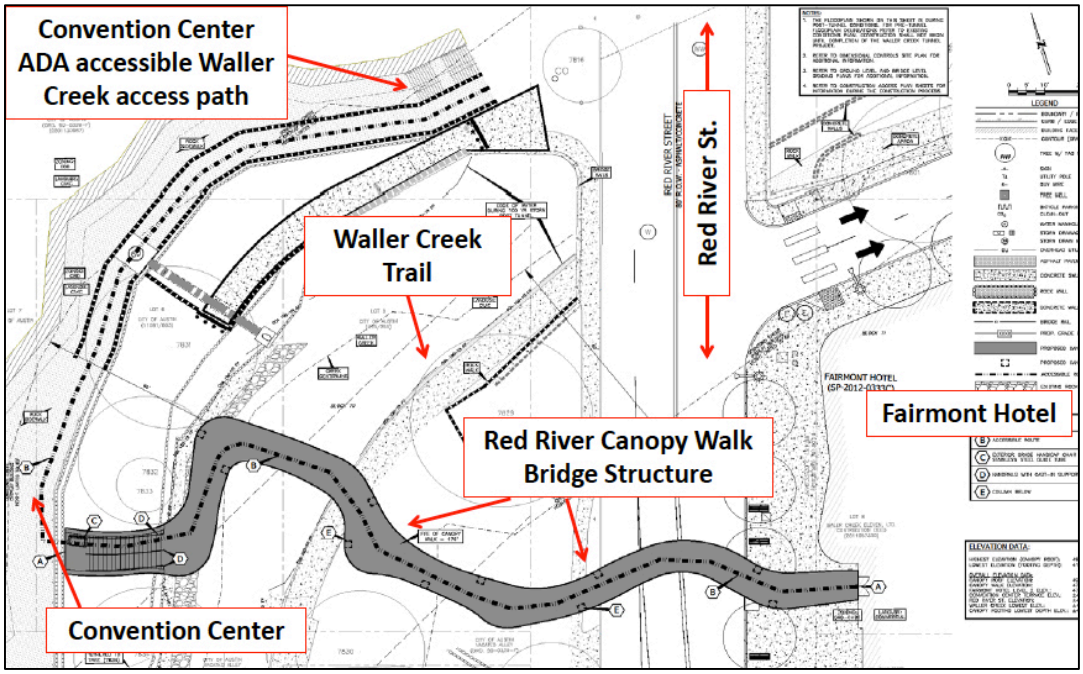
across Red River Street, the greenway, and several utility easements. Elements of the bridge, known officially as a "canopy walk," include 11 five-foot-by-five-foot concrete footings embedded either at street level or within the creek channel to support the walkway platform that will be elevated 18 feet above the road surface. The rights-of-way are associated with four tracts, which the City Council agreed to lease "to further City interests related to convention center, transportation, and park and recreational purposes" in exchange for about $1.125 million in fees and related improvements [Travis County, 2016].

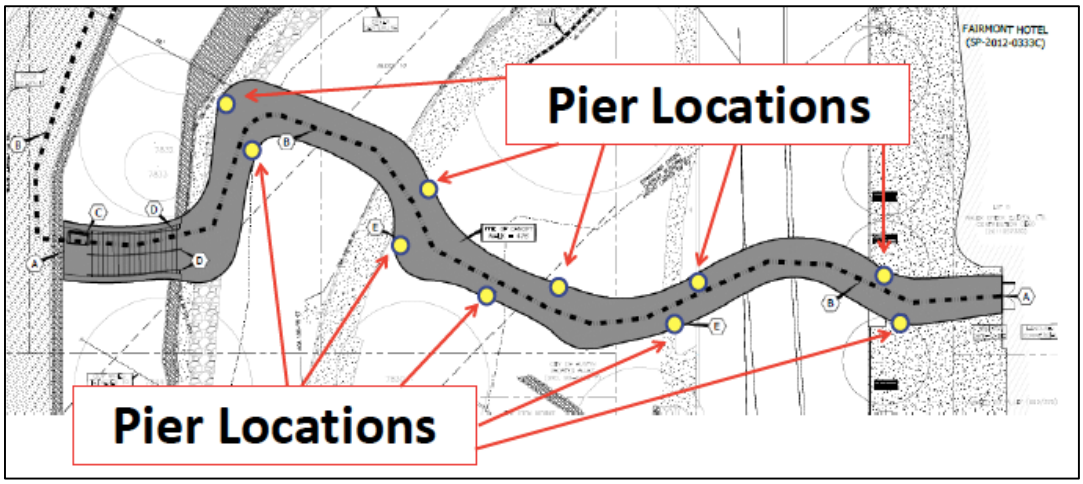
According to the encroachment agreement, the skybridge will be open "for use by the general public, along with access through the Abutting Property at such times for (i) connection across Red River Street to the Austin Convention Center, and (ii) the recreation and enjoyment of Waller Creek Park." More specifically, public access is stated to be from 7 a.m. to 9 p.m. seven days a week, a timeframe corresponding to the park's daily operations. In addition, the agreement specifies that Manchester Financial Group is responsible for security to protect people using the bridge and its premises, as well as all repairs and maintenance of the improvements to ensure public health, safety, and welfare [Travis County].

In exchange for the long-term lease of the rights-of-way, the document states, Manchester was to pay the municipality $198,200 in fees along with $543,401 for streambank renovations to Waller Creek and $383,998 for an American with Disabilities Act (ADA)-compliant walkway connecting Red River Street's west-side sidewalk with a future park trail. Additionally, under the terms of the agreement, Manchester took responsibility for all costs associated with the bridge's construction [Travis County].

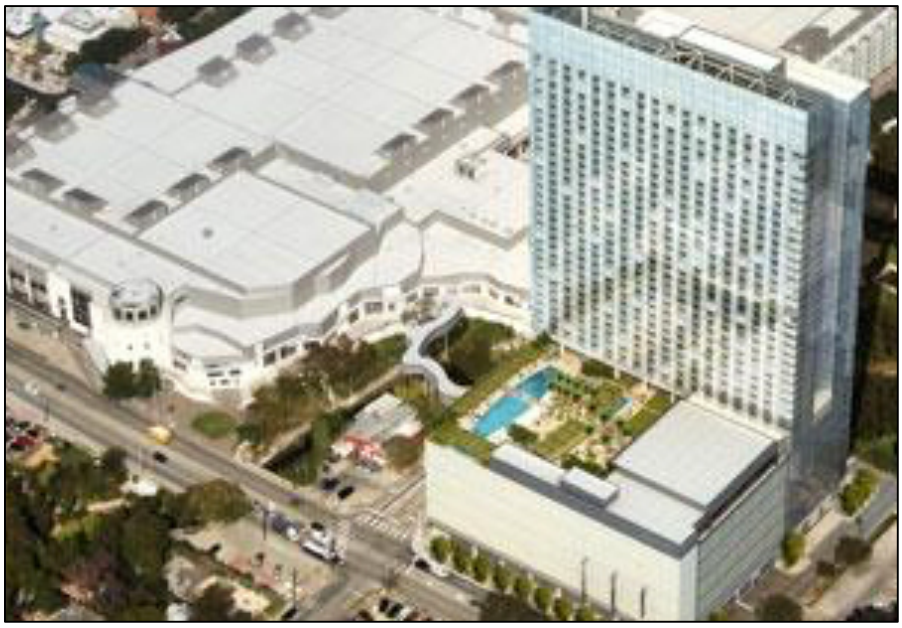
The public-private partnership between the Fairmont's owner and the municipality extended beyond the contractual agreement's enabling the installation of the bridge and public

access. In addition, through discussions with the conservancy, the partnership led to the owner committing to spending considerably more money to realize a striking architectural landmark (see Figure 26), designed by Thomas Phifer and Partners, instead of a strictly utilitarian pedestrian viaduct; an "aerial promenade" rather than what otherwise might have been little more than a gigantic "hamster tube" [Woodruffe, 2017].

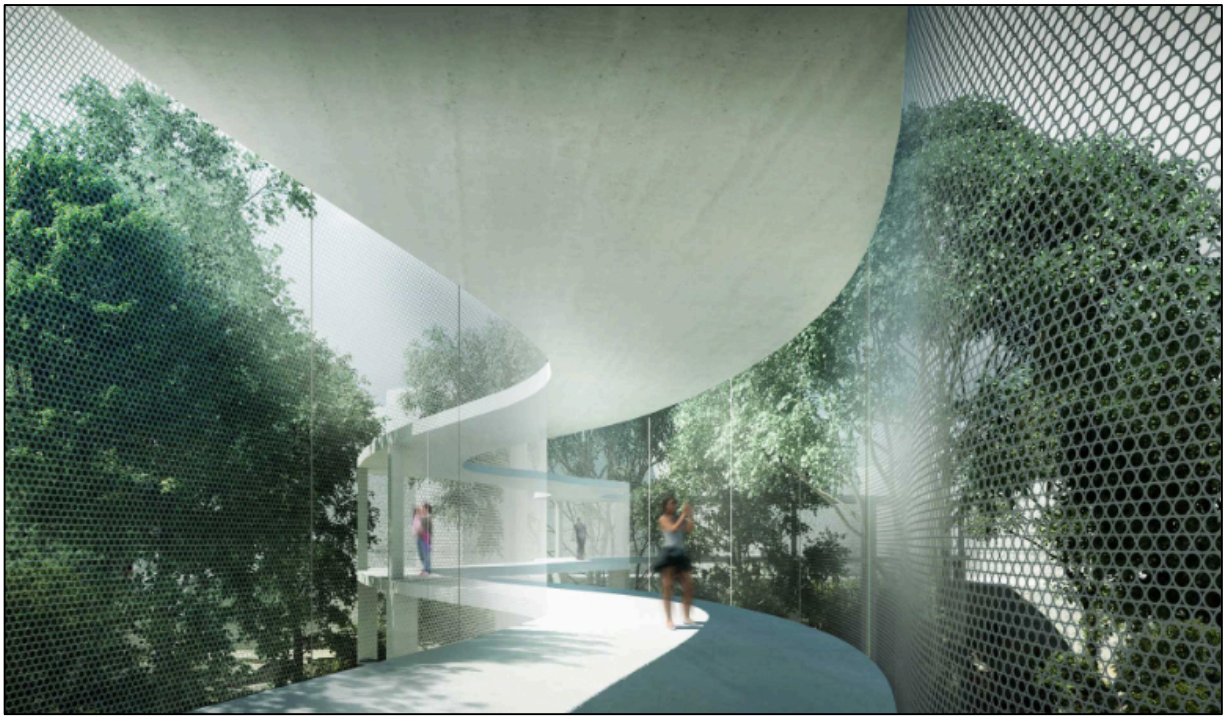




Figures 24 and 25: (top) The Fairmont skybridge's serpentine form stretches 250 feet westward across Red River Street and Waller Creek to connect with the Austin Convention Center. (above) The encroachment agreement provided the hotel developer with long-term leases to install piers within municipal rights-of-way and dedicated public parkland. [City of Austin]



Figures 26 and 27: (top) Enabled by contractual agreement with the City of Austin, the pedestrian canopy will become a striking sculptural element. (left) A bird's-eye-view rendering of the completed bridge. [Thomas Phifer and Associates; City of Austin]



Figures 28 and 29: Open to the general public once construction is completed, the pedestrian canopy will extend the city's trail network through the Waller Creek Greenway. [Phifer]

'Blurring the Line'

John Rigdon, the conservancy's director of design, recently pointed to the Fairmont canopy walk as exemplary of the conservancy's role in helping ensure that connections from adjacent private development to the linear park yield the best "human experience" and expand the greenway's public realm. Rigdon himself represents the conservancy as the city's liaison in discussions with developers over such issues. The goal, he said, was "better design along the creek" through collaboration with the private sector, with the nonprofit providing a "friendlier face" to replace the impersonal characteristics of a governmental bureaucracy. In the case of the Fairmont span, he added, rather than a strictly utilitarian bridge detracting from the nature trail's charms, parkgoers will "look up at something sculptural and beautiful." And because the developer committed to paying the additional costs for a more aesthetically pleasing structure and the attorneys' fees to hammer out the associated legal issues, parkgoers also will be allowed to walk through the overpass and survey the greenway and creek from above [Rigdon, 2017].

Also working to ensure optimal integration of the greenway's public realm with adjacent privately held parcels is Daniel Woodruffe, principal of the local landscape architecture and urban planning firm dwg. The conservancy contracts with Woodruffe's firm to assist MVVA with design and implementation of greenway improvement projects. In addition, the conservancy refers private developers to dwg for expertise on their projects within the Waller Creek District. Woodruffe describes the best outcome of his efforts as "blurring the line" between the greenway's public outdoor space and neighboring private properties. A relatively free flow of pedestrian traffic is mutually beneficial, he said in a recent interview, with commercial enterprises gaining foot traffic into their retail shops, cafés, bars, etc. "The creek is the value add for private development," he noted, drawing a comparison to New York City's High Line.

In dwg's work for the conservancy, the firm helped negotiate a license agreement in 2010 between the municipal parks department and a restaurateur who occupies property between East Fifth and East Sixth streets downtown that abuts the public right-of-way along Waller Creek. Under the terms of the license agreement, the eatery, Easy Tiger, is allowed to use the public space for outdoor seating and placing equipment for playing table tennis. In addition to paying an annual fee to renew the license, which first must be approved each year by the conservancy, the restauranteur is responsible for the patio's maintenance and must allow its access by the public because it connects to the existing pathway along the creek.

Woodruffe characterizes such public-private partnerships with property owners as critical to the success of the future linear park and likens them to contracts that allow concessionaires to operate along the High Line, but noted, "The stakes are infinitely higher for Waller Creek" due to the long-term consequences affecting the public realm [Woodruffe].

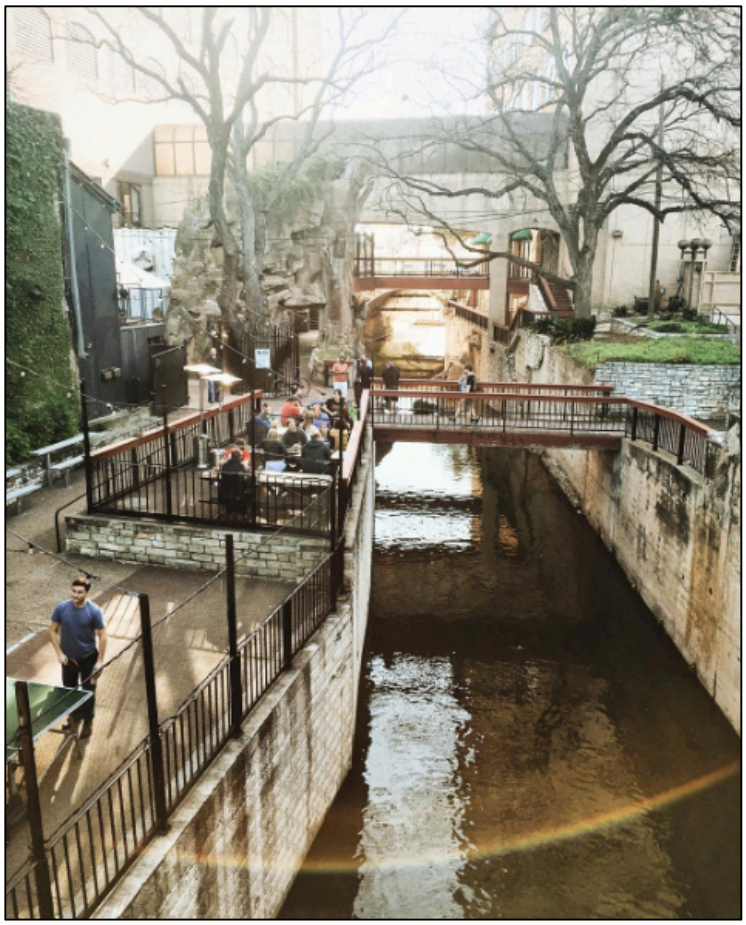


Figure 30: A public-private partnership allows Easy Tiger's commercial activities within the public right-of-way along Waller Creek. [https://www.facebook.com/EasyTigerATX/posts/1054753354545903]

Chapter Summary

This chapter explains how the fortunes of Waller Creek rose in contrast to the decline of danger from future flooding, with public-private partnerships facilitating some of the early steps toward the renaissance of the creek and its public realm. The following issues were discussed:

• the basic elements of a public-private partnership;

• earlier City of Austin partnerships that enabled redevelopment at the former municipal airport and at three sites on the southwestern quadrant of downtown;

• the joint development agreement between the city and the Waller Creek Conservancy, along with the quasi-governmental Waller Creek Local Government Corporation, to implement improvements within the linear greenway;

• the encroachment agreement, another public-private partnership for the city, that enabled the Fairmont Hotel's developer to erect a pedestrian bridge across a street and municipal parkland in return for making the span accessible to the public as part of the city's trails network; and

• how such partnerships can help achieve a desirable blurring of boundaries between private property and the public realm.

In the next chapter:

• The greenway's designers, in their Waller Creek Corridor Framework Plan, address various aspects of their improvements to the public realm, including safety and physical connections to the rest of downtown; and

• Taking three "opportunity sites" identified in the Waller Creek District Master Plan, I suggest ways in which public-private partnerships may complement plans for expanding the greenway's public realm.

Chapter VI: Opportunity Sites

This chapter highlights aspects of the Waller Creek Greenway's development plan, as well as the potential for extending the city's public realm by forging public-private partnerships with property owners in three areas along the future linear park.

Framework Plan

In 2016, with the flood-control tunnel in place, the long-anticipated redevelopment of the Waller Creek Corridor began in earnest. The Fairmont Hotel represents the largest among the first wave of construction projects.[10] Upstream at East Ninth Street, two midrise towers have been approved for construction in the near future. Because all these buildings, and presumably others to be forthcoming, will share adjacency with the greenway, the Waller Creek Conservancy is working with property owners to coordinate plans for creating optimal pedestrian linkages to the linear park's trails and open spaces. Two planning efforts may prove critical toward achieving that goal: the aforementioned Waller Creek District Master Plan and the Waller Creek Corridor Framework Plan, which focuses on the "human experience" of the greenway via seamless pedestrian connectivity between both public and private realms.

In anticipation of wholesale redevelopment, Michael Van Valkenburgh Associates was commissioned to produce the Waller Creek Corridor Framework Plan, a conceptual roadmap for the multi-disciplinary design team that will conceive and implement improvements to restore the creek's complex riparian ecosystem and enhance the surrounding public space.

[10] The Fairmont, rising to a height of 37 stories (590 feet), will be Austin's second-tallest tower and, with 1,048 rooms, its largest hotel.

The framework plan also details how the design team expects to link the future greenway's trails to public pathways at street level, which will extend the trail system in tendrils across the city, as well as recommending linkages to adjacent private properties. Notably, of the 10 design priorities enumerated in the plan, four relate directly to access/connectivity because, as stated in the plan's introduction, "[t]he human experience is integral to successfully integrating the restoration of Waller Creek to the urban fabric of the city." Furthermore, the framework plan explains the steps the design team will take toward the objective of changing public perception of the Waller Creek District as an inhospitable place essentially disconnected from the rest of downtown:

> With all of these criteria informing the alignment and elevations of the trail, the resulting network promises to foster something new for Austin — a walkable district. A four to eight block walk from any point on the creek provides access to a tremendous range of downtown destinations and activities. With the development of new residences, diversified ground floor program opportunities and a new collection of park areas, the trail network will provide a rich pedestrian experience [MVVA, 2015].

Points of Connection

Looking back at ROMA's Waller Creek District Plan of 2010, which preceded the design competition and the subsequent framework plan produced by the winning design team, I will highlight several spots designated as "opportunity sites" where redevelopment is anticipated. Again, as explained in the introduction of this report, my focus is on the blocks north of Caesar Chavez to East Ninth Street. This stretch, like almost the entire length of the creek's downtown corridor, currently features mostly commercial uses and small-scale buildings, some historic. But, generally speaking, most of the area is seen as underutilized. Opportunity sites include:

• *Sabine Street Promenade*

Among the transformations envisioned by the Waller Creek District Master Plan, perhaps none is more critical than the Sabine Street Promenade to achieving the plan's overarching goal of "a more pedestrian oriented pattern and integrating the public and private realms in a way that provides for a more vibrant and interesting place." Only four blocks long, stretching between Third and Seventh streets just a few steps west of the creek, Sabine Street affords the opportunity for becoming another of Austin's so-called "Great Streets," a municipal program used to expand the public realm along several downtown streets via broad sidewalks, landscaping, and limited vehicular traffic. Indeed, both the downtown plan and the district plan already have noted Sabine Street's applicability to the Great Streets program. "By far, the greatest opportunity within the Waller Creek District is Sabine Street," according to the district plan, which continues:

> …There is sufficient space within the 80-foot of right-of-way to allow the street to be rebalanced, with 70% utilized for landscaping and improved open space.…Further, it can help to create a more sociable and attractive setting for the public life of the city which in turn can become a catalyst for the revitalization of the area … as a mixed use district, housing cultural, creative and entertainment uses tied to East Sixth Street [ROMA].

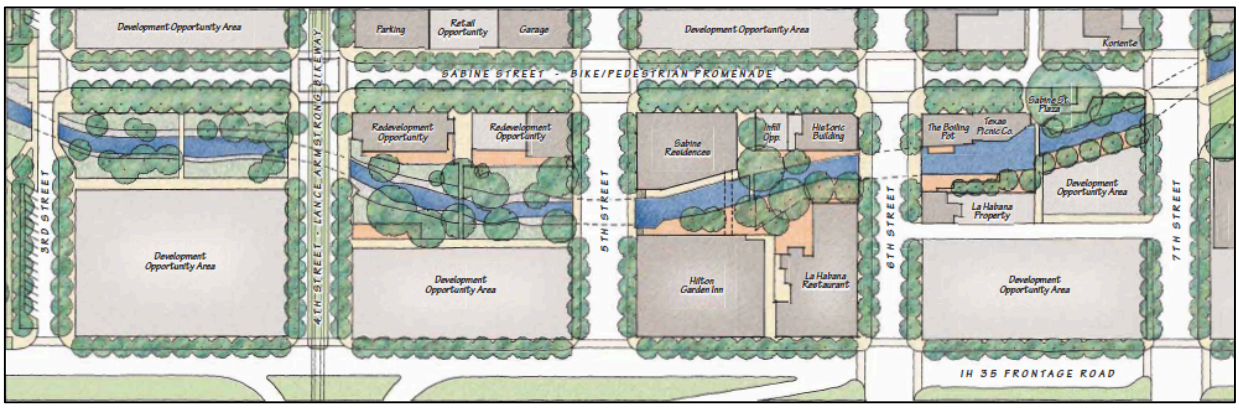
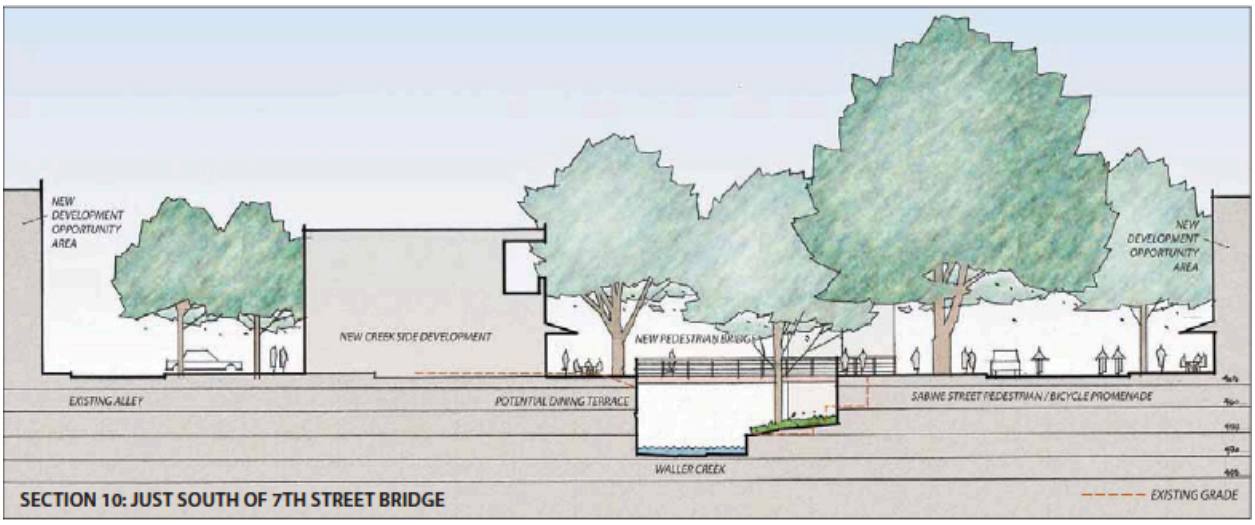


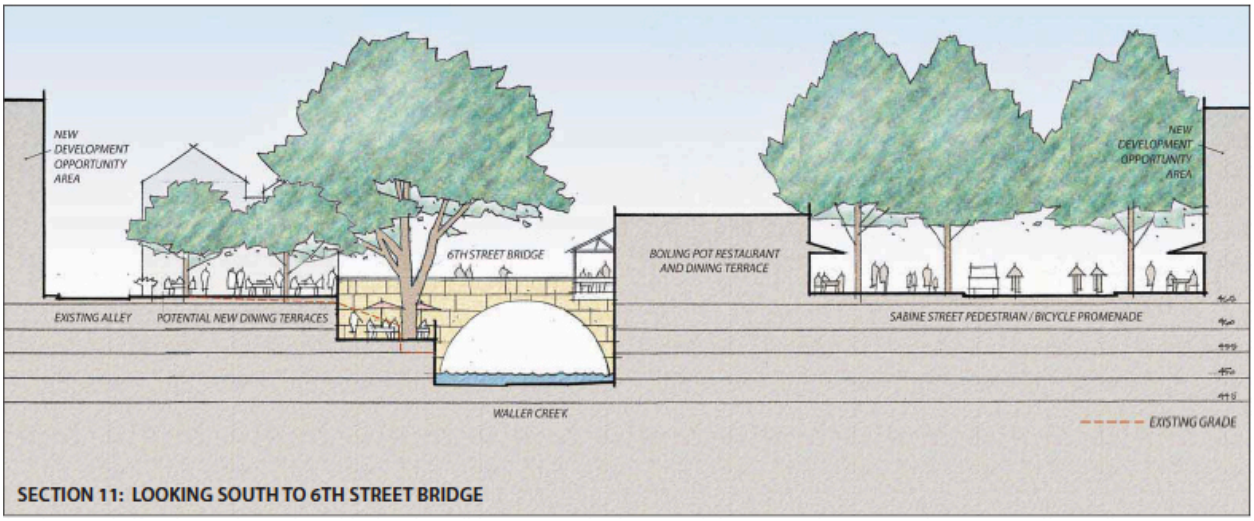
Figure 31: As recommended by the Waller Creek District Master Plan, transforming Sabine Street into a pedestrian promenade will also activate the public realm along the Waller Creek. [ROMA]

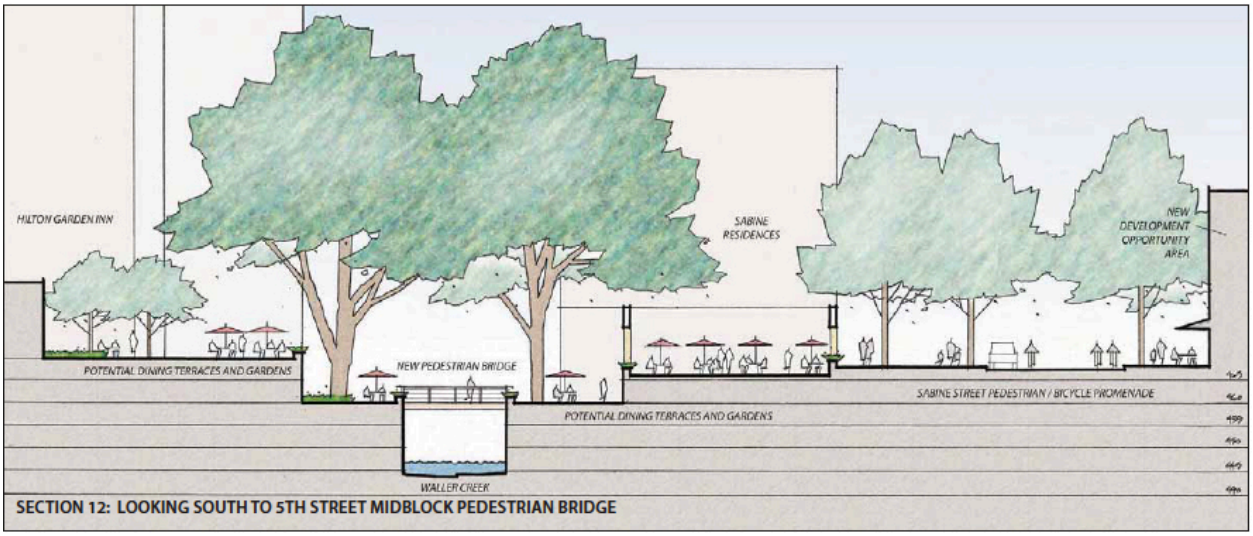
Taking the Great Streets concept another step, City of Austin planners envision Sabine Street as being programmed as a curbless "festival" street from which cars are banished and thereby allowing the highest degree of safety for pedestrians and bicyclists. These planned improvements, as noted in the district plan, will make Sabine Street the "…key to the improvement of the pedestrian and bicycle connections through the Waller Creek District."

Furthermore, the result of such improvements would create opportunities for, in the words of urban planner Daniel Woodruffe, "blurring the line" between public and private space, possibly through the aegis of an encroachment agreement that minimizes the liability of property owners while maximizing the parcel's connection to the public space. The proposed Sabine Street Promenade is uniquely situated for blurring boundaries within the Waller Creek District, as explained in the district plan: "The buildings that are currently located on very small parcels can be brought into a larger landscaped island setting, where they will have two positive frontages – one facing the creek and the other facing the landscaped promenade space along Sabine Street." Another unique feature of the four-block street is its incomplete stretches of a mid-block alley that the district master plan suggests "can play a significant role in creating a smaller scale network of linkages that will increase variety and interest of the pedestrian experience. These can be extended further to bridge over the creek thus interconnecting both banks of the corridor and linking them more closely to Sabine Street" [ROMA].

As shown in Figure 31, several Sabine Street parcels are identified in the district plan as opportunity sites for redevelopment. With the ongoing transformation of the Waller Creek District, these sites are likely to undergo changes that may include replacement buildings specifically designed to take advantage of dual linkages to the promenade and creekside trails, Great Streets improvements, and commercial uses attuned to a pedestrian-friendly streetscape.







Figures 32, 33, and 34: Section drawings from the Waller Creek District Master Plan depict the integration along Sabine Street of public-realm activities with adjacent private property. [ROMA]

• *The Narrows*

Another area rife with post-tunnel opportunities for expanding the public realm is the area directly adjacent to the creek between Fifth and Seventh streets, identified by the design team as The Narrows. Essentially a two-block-long manmade canyon bounded on both sides by almost continuous vertical masonry walls, The Narrows is the segment of the creek channel that is most urban in characteristic. This stretch, running north-south and roughly parallel to the northern blocks of the proposed Sabine Street Promenade, is densely occupied by midrise buildings and is expected to remain so. However, future redevelopment is likely because of the reduction of the 100-year flood plain, which will allow property owners to reprogram spaces below street level.

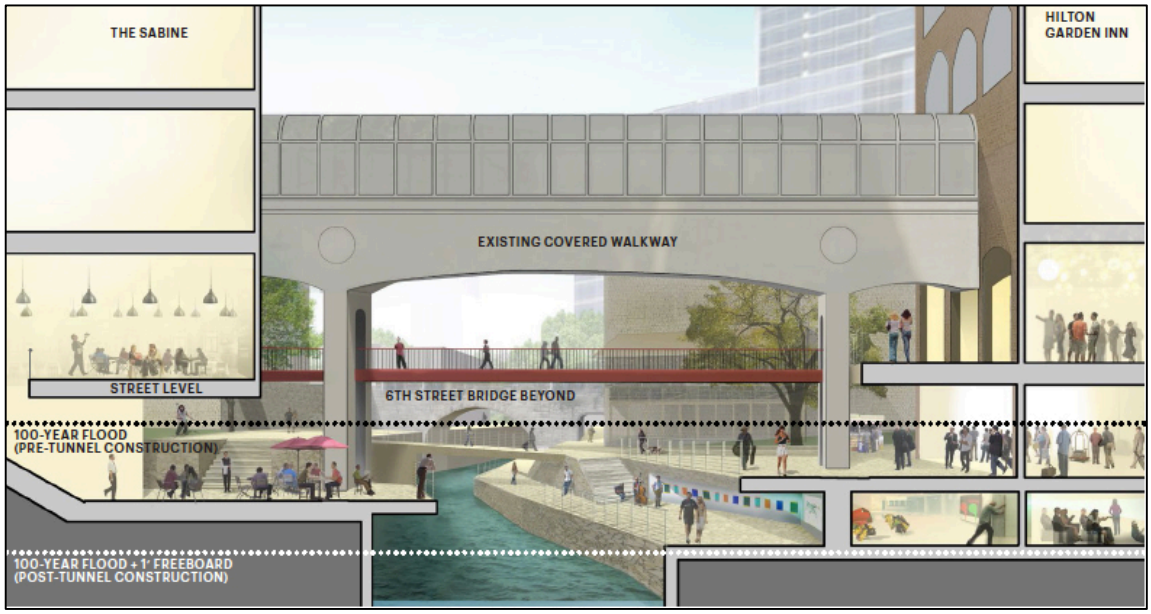
Similar in character to parcels along San Antonio's Paseo del Rio, The Narrows offers frontages along the Waller Creek Greenway. As such, the Waller Creek Corridor Framework Plan notes the potential for "patio urbanism" along this segment of the creek channel:

> …the elimination of high flood threats in the creek opens up the potential for basement spaces to be daylighted onto the creek and create an exciting urban rendition of patio culture. As the creek is almost entirely defined by architecture in The Narrows, it is imagined that the private sector would play a larger role in developing this reach [MVVA].

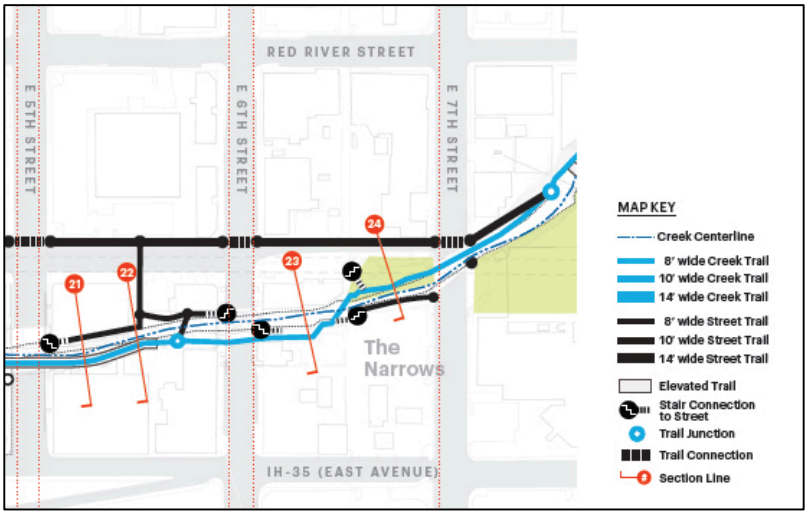
Additionally, due to its proximity to commercial enterprises, The Narrows affords the opportunity to, according to the framework plan, "catalyze private sector redevelopment of creek facing property by creating and welcoming north-south trail circulation and visual connections" [MVVA].

Coordinating efforts with private property owners for trail alignment might entail encroachment agreements. Yet, in light of the conservancy's primary interest in creating a park environment "more anchored in nature than commerce," any potential agreements are likely only

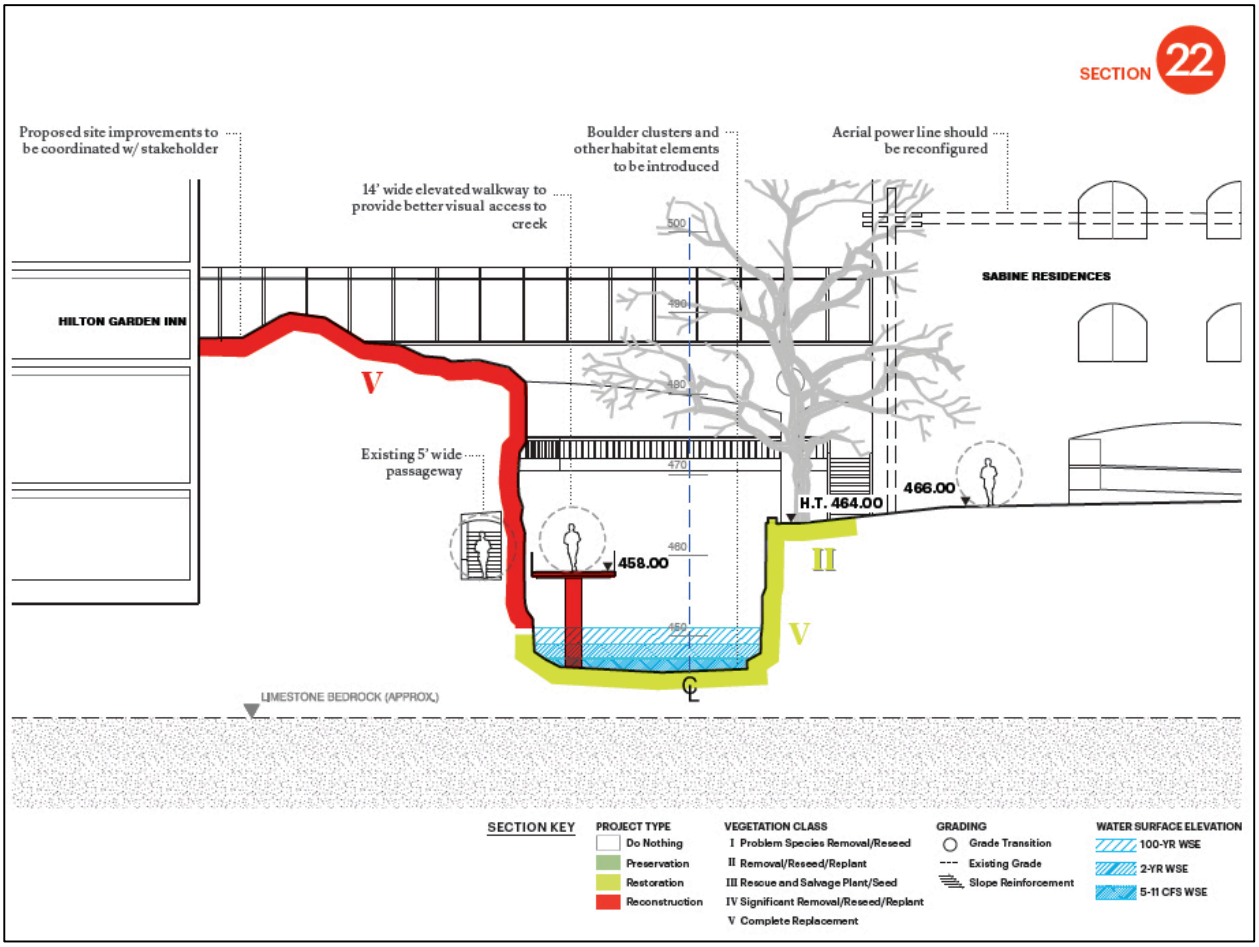
"when its contextually appropriate" to the setting [Rigdon]. Nevertheless, the district master plan describes this area as being where "the highest concentration of active commercial and civic creekfront is desired" and "where retail, restaurant and cultural uses are intended to reinforce Waller Creek as a city and even region-wide destination" [ROMA].



Figures 35 and 36: (top) Along the creek between East Fifth and East Sixth streets, the pre-tunnel 100-year flood plain restricted development to just below street level. (above) Flood-control measures will now allow activation of basement spaces. [MVVA]



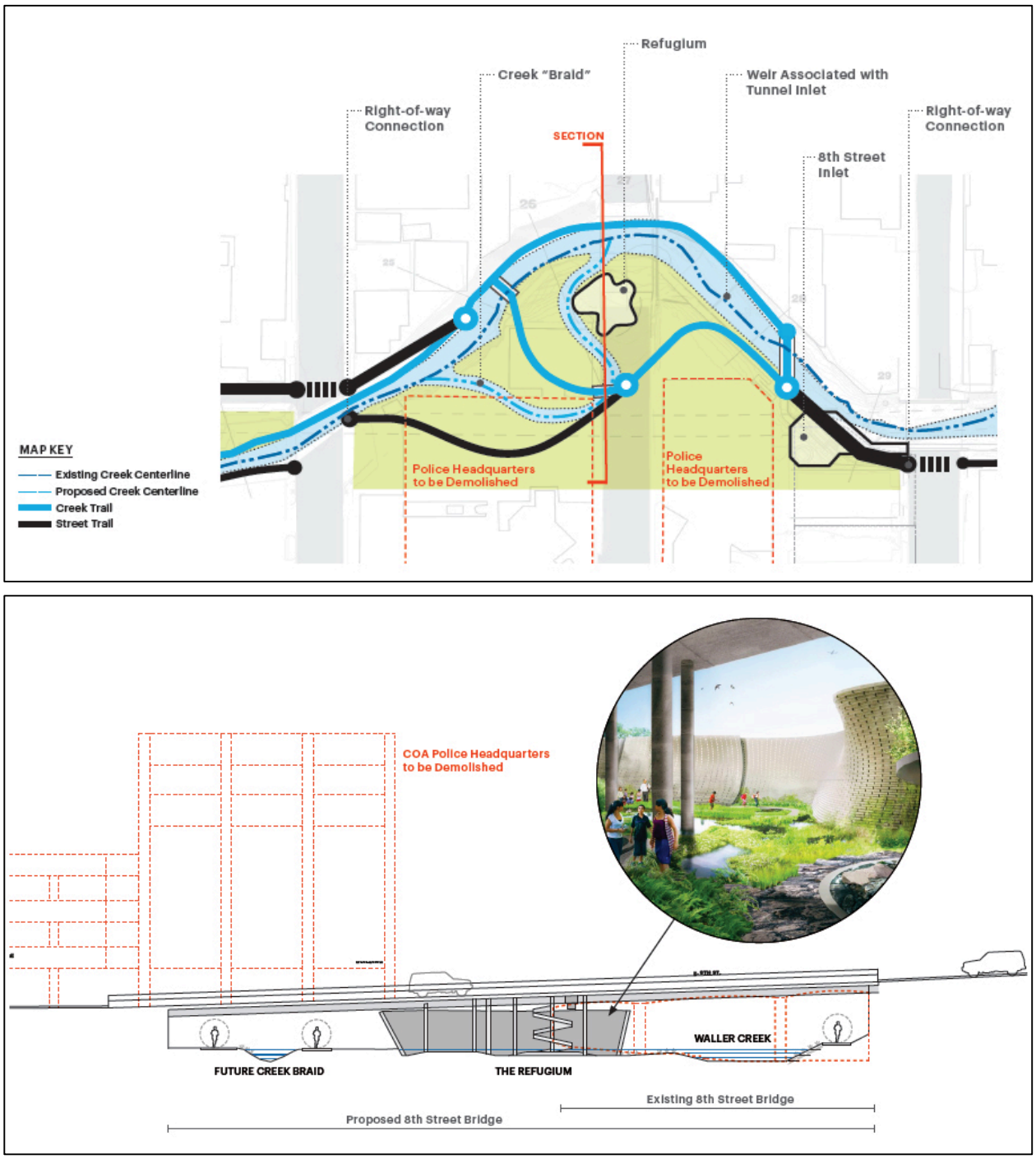
Figures 37 and 38: In The Narrows segment of the creek, MVVA's plans complement its urban characteristics. [MVVA]



• The Refuge

Just upstream from The Narrows, the creek channel arcs westward to carve a broad bend, a segment encompassing four acres in which the design team intends to program a recreational area called The Refuge. This large swath of land between Seventh and Ninth streets is particularly significant to the future of the Waller Creek Greenway because the parcels are owned by the City of Austin. The site is currently occupied by the five-story Austin Police Department (APD) headquarters and adjacent Municipal Courts complex, along with multi-storied parking structures and a service garage for city-owned vehicles. However, although no timeline has been set, city officials expect the police department and the courts to relocate in the next few years, with most of the acreage becoming available for redevelopment by the private sector. Yet some of the land will be retained for recreational purposes, as stated in the Waller Creek District Master Plan: "These parcels are large enough so that as redevelopment of these parcels occurs and is encouraged to take place over the long term, portions can be reserved to create a significant amount of parkland that would enhance the creek experience… Even with the expanded parkland, the area will still retain significant redevelopment potential" [ROMA].

Indeed, these aggregated tracts of municipal-owned land represent a major opportunity for a public-private partnership, whether city officials decide to negotiate a long-term lease with a private developer or choose to sell the land outright. In either scenario, a partnership may help support objectives set out in the district master plan: "Redevelopment of the APD site should be designed to enhance the creekfront experience… The massing and configuration of the buildings should be designed to bring the amenity of the creek into the site, with courtyards, plazas and/or gardens." Another instance of the potential for "blurring the line" between public space and private property, redevelopment adjacent to The Refuge may prove beneficial to all stakeholders.



Figures 39 and 40: The eventual relocation of the Austin Police Department headquarters will allow for significant improvements and programming of The Refuge recreational area. [MVVA]

Chapter Summary

This chapter focuses on planning efforts intended to maximize the "human experience" along the downtown reach of Waller Creek, as manifest in the seamless integration of public space (i.e., sidewalks and trails) with adjacent private property. Specifics covered in this chapter include:

• measures articulated in the Waller Creek Corridor Framework Plan that Michael Van Valkenburgh Associates plans to take to achieve city-wide interconnectivity with the future urban parkland's trails; and

• analyses of three sites – the Sabine Street Promenade, The Narrows, and The Refuge – noted in the Waller Creek District Master Plan as being particularly attractive for redevelopment, and which also offer potential for public-private partnerships designed to blur the boundaries between them and neighboring public space.

The following chapter presents two major constraints to redevelopment of the middle section of Waller Creek's downtown reach, which are:

• local ordinances and state laws, known collectively as Capitol View Corridors, enacted to protect sightlines to the Texas State Capitol by radically limiting building heights; and

• public safety concerns stemming from the proximity of several social service providers.

Chapter VII: Daunting Constraints

This chapter describes two pre-existing challenges to redevelopment within the Waller Creek Corridor that will require careful attention as projects are being planned. One is the existence of several Capitol View Corridors, which restrict building height along sightlines toward the nearby Texas State Capitol. The other is the perception of physical endangerment that some visitors to the greenway may experience due to the almost constant presence of a multitude of destitute people in the vicinity. Although many are homeless and are seeking help from social service providers located within the district, some are petty criminals who prey on them. These two adverse conditions pose different sets of problems, each requiring thoughtful solutions that will affect redevelopment scenarios.

Capitol View Corridors

The foremost constraint to the future buildout of the district, and one that will profoundly affect redevelopment scenarios for parcels located between Caesar Chavez and East Ninth Street in particular, are the local and state laws collectively known as Capitol View Corridors (CVC). These laws severely limit building heights in order to protect sightlines to the Texas State Capitol located just a few blocks away. According to the City of Austin's Capitol View Corridor Overlay District, 13 city and state view corridors traverse the Waller Creek District, with the heaviest concentration falling across its middle segment. The impact on a specific tract depends on its topography, but in general the height limits beneath the view planes range from less than 50 feet to approximately 130 feet. The Fairmont Hotel, by contrast, peaks at 590 feet on its site near Caesar Chavez toward the southern portion of the Waller Creek District, which does not lie beneath a view corridor. However, most of the area between East Third and East Ninth streets is

constrained by view corridors, which partly explains its legacy of "fine-grained property ownership with fewer assembled sites than those to the south and north," as described in the district master plan. The master plan also adds that, due to the CVCs and the expectation that they will remain for the foreseeable future, the area is likely to retain its "village" character, with buildings no taller than two floors above street level [ROMA].

While chances may be slim, the possibility of having CVC laws amended is not inconceivable. In the years following establishment of the state protections in 1982, at least three revisions were made between 2001 and 2003 to allow the interruption of sightlines for the following: "unique" revitalization along Austin's historic East 11th Street; redevelopment at Mueller, the mixed-use community at the former municipal airport; and an addition to Darrell K. Royal–Memorial Stadium on the University of Texas campus [Preservation Austin]. Similarly, while the City of Austin has constrained building profiles since 1931 to ensure the Capitol's prominence on the skyline, only a few exceptions to municipal CVC ordinances have been made.[11] Also, in 2017, the city council agreed to study a proposal to create four new view corridors projecting eastward of the Capitol, although none would affect future development in the middle section of Waller Creek District targeted by this report [Preservation Austin].

Interestingly, due to an expensive blunder involving the flood-control tunnel's intake facility at Waterloo Park almost next door to the Capitol, construction was abruptly suspended when local officials discovered that the completed building would obstruct a municipal CVC. The problem was attributed to a design error, whereby the engineering team was forced to go back to the drawing board and lower the facility's profile.

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[11] According to the nonprofit Preservation Austin, the 1982 state CVC legislation was a direct response to the City of Austin's "permissive" stance toward downtown development.

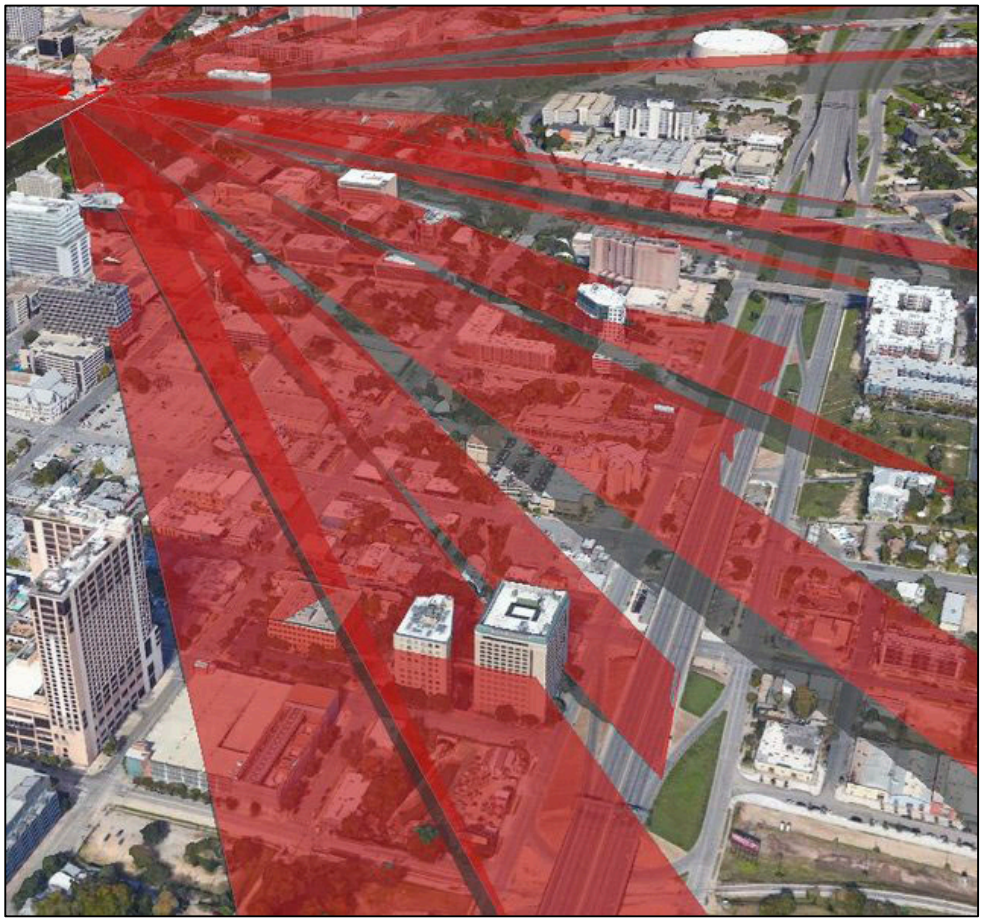

Figure 41: Capitol View Corridors fall across most of the middle section of the Waller Creek District. While inconsistent enforcement in years past allowed some buildings to rise above height limits, CVC laws are more stringently administered today. [*www.reddit.com/r/Austin/comments/3bgaq7/i_mapped_the_capitol_view_corridor_building/*]

Public Safety Concerns

Presently, another major constraint to redevelopment within the middle segment of the district is the abiding concern for public safety due to the prevalence of scores of transients who spend most daytime and nighttime hours in the area just west of the creek. This is the location of three nonprofit organizations that provide services to victims of homelessness: the Salvation Army; Caritas; and Front Steps, which occupies a city-owned building called the Austin Resource Center for the Homeless (ARCH). While some people who spend part of their days in this area

are seeking assistance such as overnight shelter, meals, and healthcare, city officials describe others as drug dealers and miscreants who prey on those truly in need of social services being offered there. Criminal activity in the area escalated around the time the flood-control tunnel was being completed, according to local news reports, which prompted the following alert in August 2017 from a group called Ending Community Homelessness Coalition, also known as ECHO:

> We have a health and public safety crisis in the downtown area around the ARCH that has become acute, and it is impacting our whole community… More people are coming downtown to access services, including shelter and food, which is leading to overcrowding near these service locations. This has resulted in many people being preyed upon and exposed to dangerous substances…while they attempt to access services [*Austin American-Statesman*, August 5, 2017].

After ECHO's statement, city officials assigned more police officers to patrol the area and increased outdoor lighting. In a separate announcement a month earlier, Austin's mayor called for an increase in the hotel occupancy tax to fund additional services for the homeless [*Austin American-Statesman*, July 18, 2017]. By November 2017, however, the City Council had taken no action on the plan. Local news media have drawn a direct link between the public's perception of unsafe conditions downtown and the success of future redevelopment within the Waller Creek District [*Austin American-Statesman*, August 6, 2017].

While the Capitol View Corridors are expected to remain a formidable long-term constraint to achieving the maximum potential for redevelopment of the Waller Creek District, concerns over public safety may be mediated in the short term. Where the view corridors are seen as virtually sacrosanct by state lawmakers and therefore no movement is anticipated to alter them, the societal problems associated with homelessness and street crime can be individually addressed by governmental and private sectors, or by both through public-private partnerships.

The Waller Creek Conservancy's John Rigdon said his organization has met with ECHO to discuss possible solutions and roles the conservancy might take that would be most effective. Noting that a "constructive solution is vital for downtown," he added that efforts should view homelessness as a city-wide conundrum rather than one soley afflicting the urban core [Rigdon].

In addressing similar concerns, the district plan called for the city to

> take a proactive role in providing outreach and assistance to individuals who have established campsites within Waller Creek, providing them with information and available services. At the same time, the Austin Police Department … should also provide more consistent enforcement of existing anti-camping and vagrancy laws that prohibit overnight camps within the corridor [ROMA].

Additionally, the corridor framework plan addresses public safety concerns as follows:

> The plan reflects a commitment to the realization of a universally accessible, safe, and innovative trail network. The trail has been developed to incorporate as many points of access as possible, and the resulting abundance of access and circulation will contribute significantly to the perception of feeling safe in a intensely urban environment. The trail system has also been shaped to afford long sight lines and to eliminate as many blind corners as possible—another important factor in building a safe-feeling environment [MVVA].

Figure 42: On an autumn weekday in 2017, people gathered along Nueces Street between Eighth and Ninth streets across from the Salvation Army and the ARCH to await access to social services. [Author photo]

Chapter Summary

This chapter details two significant pre-existing conditions that will affect post-tunnel redevelopment plans for the middle segment of the Waller Creek District. They are:

• Capitol View Corridor protections that represent the more influential constraint in terms of their bearing on the size of a project being considered, and which recent history shows are not likely to be amended to allow tall buildings; and

• public safety concerns, which may have less long-term influence on future development plans but in the short term may weigh heavier on the perception of safety – or, more important, the perception of potential danger – and engender anxiety from the creek corridor's current appearance of being "underutilized and abandoned."

Chapter VIII: Conclusions

Thoughtful approaches to the challenges facing planners of the Waller Creek Greenway and adjacent private development will require carefully coordinated efforts and, in some cases, creative solutions to minimize separations between public and private realms. Failure to achieve authentic connections would jeopardize a desired "blurring of the line" between public space (i.e., park trails) and private land (i.e., outdoor patios), which planners see as a critical aspect to the ultimate success of the unique opportunity made possible by the flood-control tunnel. The Waller Creek Corridor Framework Plan summarizes the risk this way: "The design of new parkland should aim to be highly inclusive and inviting to the public—this is critical in order to prevent the creek corridor from presenting itself as a semi-private enclave serving developments that will emerge along the banks of Waller Creek" [MVVA]. To avoid the creation of disconnected and isolated pockets that might otherwise intersect with the greenway, local government must play a role in the planning of the district's redevelopment. In some instances, public-private partnerships can ensure a more inclusive and inviting atmosphere.

Public-private partnerships already have proven to be useful tools for expanding the public realm along Waller Creek, as evidenced by previous mention of these examples:

• *Waller Creek TIF District* – Created to finance the flood-control tunnel, the TIF district is a partnership between the City of Austin and the quasi-governmental Waller Creek Local Government Corporation. Among the LGC's responsibilities is the issuance of contract revenue bonds to service the long-term debt on the tunnel's construction, operation, and maintenance.

• *Waller Creek Greenway Joint Development Agreement* – The JDA divides responsibilities for park projects within the greenway among three partnering organizations: the City of Austin, the Waller Creek LGC, and the nonprofit Waller Creek Conservancy.

• *Fairmont Hotel Encroachment Agreement* – The agreement provided the Fairmont Hotel's developer with long-term leases to municipal property, which allowed construction of a skybridge between the hotel and the adjacent convention center. In return for the leases and the promise to maintain the span's upkeep and security, the developer allowed it to be used as part of the City of Austin's trail network.

In addition, Chapter VI of my report details issues at these three "opportunity sites" in which public-private partnerships can help ensure the expansion of the public realm at its intersection with future redevelopment of private property:

• *Sabine Street Promenade* – This four-block stretch of public roadway lies immediately adjacent to Waller Creek and offers ideal potential for redevelopment with two frontages, one opening to the creekside trail and another facing Sabine Street. The City of Austin plans improvements in the near future that will transform the narrow road into a pedestrian-friendly streetscape that will complement the foot traffic along the greenway.

• *The Narrows* – Already densely developed, this area along the greenway shows potential for becoming the center of Waller Creek's "patio urbanism" due to the virtual elimination of future flooding. With the 100-year flood plain drastically reduced, property owners can now open basement spaces to the creekside parkland for various recreational and entertainment uses.

• *The Refuge* – This large expanse of municipal property holds great potential for redevelopment as a mixed-use complex with immediate adjacency to one of the two new parks planned within the greenway. Planners see the four-acre site, currently occupied by the Austin Police Department headquarters and municipal courts building, both of which the City of Austin plans to relocate, as offering multiple opportunities for courtyards and plazas "designed to enhance the creekfront experience" [ROMA].

Looking Forward

As redevelopment projects evolve beyond the conceptual phase for sites within the Waller Creek District, new opportunities for public-private partnerships are likely to present themselves as being potentially effective in fostering further expansion of the public realm. While partnerships may not be applicable in all cases, my study of the post-tunnel potential of the mid-section of Waller Creek's downtown reach leads me to conclude that cooperation between the public and private sectors can help ensure the overall success of the district. With that in mind, here are several issues that will need special attention by all stakeholders:

• *Human-Scale Design* – To retain a pedestrian-centric atmosphere, all new development must be planned from its earliest stages to address how the individual visitor can engage with the built environment. This will be as critical at street level as it will be within the park. The greenway planners clearly understand this: "The human experience is integral to successfully integrating the restoration of Waller Creek into the urban fabric of the city" [MVVA].

• *Ease of Circulation* – Safe and logical connections between the public realm and privately owned property will be especially needed to facilitate pedestrian access from street level to creekside trails and businesses. As in the case with the Fairmont skybridge, public-private partnerships may help provide this necessary component to the future urban park.

• *Contingencies for TIF's Success* – While forecasts of tax revenue appear promising at this early stage, officials must plan for possible hiccups in the revenue stream as well as costly tweaks to the tunnel's operation. The TIF's success hinges on the success of the tunnel, which in turn increases the chances for success of the greenway and its neighboring commercial enterprises.

• *Humane Response to Homelessness* – The vexing problem of homelessness is not unique to Austin, so city leaders must look to other metropolitan areas for innovative solutions. Austin's

Mayor Steve Adler's recommendation for an increase in the hotel tax to fund additonal services for the homeless deserves the careful consideration of the city council in the very near future.

• *Public Safety* – While the greenway's design team has outlined achievable objectives intended to give park visitors a feeling of safety, the private sector also can work with city officials, including police, to provide a secure environment within the greenway and at street level. As previously detailed, the Fairmont skybridge encroachment agreement places the onus of security within the 250-foot span (which, as the contract stipulates, is incorporated into the trail system) on the hotel owner, thereby demonstrating another critical aspect of that public-private partnership. Business owners can further contribute to Waller Creek's safety by supporting the Austin Downtown Alliance's Downtown Ambassador Program. Launched in January 2016, the program's staff provides a variety of services in the downtown area every day of the week, including escorting people at night to parking garages and reporting public disturbances to the Austin Police Department [Downtown Austin Alliance, 2017].

• *Planning for Climate Change* – With the severity of storms expected to increase apace with the warming of Earth's atmosphere, Austin may experience more intense rainfalls in the future. Periodic testing of the tunnel system is essential for the city to be adequately prepared for greater amounts of rainfall. Also, while city officials acknowledge that the tunnel's capacity for a 500-year flood is unknown, data should be collected and analyzed as soon as possible to determine what measures will be required to protect lives and property within the Waller Creek Corridor should such a record-shattering event take place.

Careful consideration of these issues, involving public forums where all interested parties are invited to participate, will demonstrate that the future Waller Creek Greenway is indeed a park to be enjoyed by all the people of Austin.

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